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LEGISLATIVE HISTORY

Public Law 751--77th Congress

Chapter 617--2d Session

S. 2775

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## DIGEST OF PUBLIC LAW 751

GUAYULE RUBBER ACT AMENDMENT. Amends the Guayule Rubber Act so as to increase the acreage limitation to 500,000; authorize acquisition of water rights, disposition of surplus waters, erection of necessary buildings on land leased by the Secretary where suitable land cannot be purchased, purchase of guayule, and employment of citizens of countries other than those in the Western Hemisphere; provide that that the Secretary, in carrying out the provisions of the Act, shall have all the authority conferred upon him by the act of January 31, 1931, to facilitate and simplify the work of the Forest Service; and exempt operations under the Act from the 8-hour law on public works.



## INDEX AND SUMMARY OF HISTORY ON S. 2775

|                    |                                                                                                                                                                                    |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| September 10, 1942 | The Rubber Situation. Message from the President of the United States transmitting a digest and report of the special committee to study the rubber situation. House Document 836. |
| September 14, 1942 | S. 2775 was introduced by Senator Downey and was referred to the Senate Committee on Military Affairs. Print of the bill as introduced.                                            |
| September 15, 1942 | H. R. 7549 was introduced by Rep. Anderson and was referred to the House Committee on Agriculture. Print of the bill as introduced.                                                |
| September 16, 1942 | Hearings: Senate, S. 2775.                                                                                                                                                         |
| September 17, 1942 | Senate Committee reported S. 2775 with amendments. Senate Report 1607. Print of the bill as reported.                                                                              |
| September 21, 1942 | Senate debated and passed S. 2775 as reported.                                                                                                                                     |
| September 22, 1942 | S. 2775 was referred to the House Committee on Agriculture. Print of the bill as referred.                                                                                         |
| October 6, 1942    | House Committee reported S. 2775 with amendments. House Report 2517. Print of the bill as reported.                                                                                |
| October 8, 1942    | House debated and passed S. 2775 as reported.                                                                                                                                      |
| October 13, 1942   | Senate agreed to the House amendments.                                                                                                                                             |
| October 20, 1942   | Approved. Public Law 751.                                                                                                                                                          |









# THE RUBBER SITUATION

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## MESSAGE

FROM

## THE PRESIDENT OF THE UNITED STATES

TRANSMITTING

A DIGEST AND REPORT OF THE SPECIAL COMMITTEE  
TO STUDY THE RUBBER SITUATION AND  
TO RECOMMEND ACTION



SEPTEMBER 10, 1942.—Referred to the Committee on Agriculture  
and ordered to be printed

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UNITED STATES  
GOVERNMENT PRINTING OFFICE  
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## THE RUBBER SITUATION

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*To the Congress of the United States:*

I herewith send to you, for your information, the digest and report of the Special Inquiry Committee which I appointed on August 6 to study our rubber situation and to recommend action.

The Committee consists of B. M. Baruch, chairman; Dr. J. B. Conant, president of Harvard University; Dr. Karl T. Compton, president of Massachusetts Institute of Technology; and a staff of experts.

The introduction to the report tells the story in outline; the report proper gives the details in full.

FRANKLIN D. ROOSEVELT.

THE WHITE HOUSE,  
*September 10, 1942.*

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MR. PRESIDENT: Herewith is presented a digest and full report of the committee you appointed on August 6, with instructions that the survey "include not only facts with respect to existing supplies and estimates as to future needs, but also the question of the best method to be followed for obtaining an adequate supply of rubber for our military and essential civilian requirements. \* \* \* to recommend such action as will best produce the synthetic rubber necessary for our total war effort, including essential civilian use, with the minimum interference with the production of other weapons of war."

We find the existing situation to be so dangerous that unless corrective measures are taken immediately this country will face both a military and civilian collapse. The naked facts present a warning that dare not be ignored. We present herewith the significant figures:

*Crude rubber position of the United States (July 1, 1942, to Jan. 1, 1944)*

|                                                                                                                                          | <i>Tons</i> |
|------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| On hand July 1, 1942 (stock pile)-----                                                                                                   | 578, 000    |
| Estimated imports July 1, 1942, to Jan. 1, 1944-----                                                                                     | 53, 000     |
| Total crude rubber-----                                                                                                                  | 631, 000    |
| Estimated military and other essential demands July 1, 1942, to Jan. 1, 1944, with no allowance for tires for passenger automobiles----- | 842, 000    |
| Deficit that must be met by production of synthetic rubber before Jan. 1, 1944-----                                                      | 211, 000    |

Unless adequate new supplies (natural or artificial) can be obtained in time, the total military and export requirements alone will exhaust our crude stocks before the end of next summer.

Tires on civilian cars are wearing down at a rate eight times greater than they are being replaced. If this rate continues, by far the larger number of cars will be off the road next year and in 1944 there will be an all but complete collapse of the 27,000,000 passenger cars in America.

We are faced with certainties as to demands; with grave insecurity as to supply. Therefore this committee conceives its first duty to be the maintenance of a rubber reserve that will keep our armed forces fighting and our essential civilian wheels turning. This can best be done by "bulling through" the present gigantic synthetic program and by safeguarding jealously every ounce of rubber in the country.

At the same time we find that rubber for necessitous civilian use has been insufficiently allocated. More must be allowed for tire replacement and recapping. That is part of the conservation program we submit. More rubber use to those who need it; less to those who don't.

Let there be no doubt that only actual needs, not fancied wants, can, or should, be satisfied. To dissipate our stocks of rubber is to destroy one of our chief weapons of war. We have the choice.

Discomfort or defeat. There is no middle course.

Therefore, we recommend:

That no speed above 35 miles an hour be permitted for passenger cars and trucks. (In this way the life of tires will be prolonged by nearly 40 percent).

That the annual average mileage per car now estimated as 6,700 be held down to 5,000, a reduction of 25 percent. (This does not mean that each has a right to 5,000 miles; it applies to necessary driving.)

That more rubber than is now given to the public be released to fully maintain, by recapping or new tires, necessary civilian driving.

That a new rationing system of gasoline be devised, based on this 5,000 miles a year to save tires.

That the restrictions as to gasoline and mileage be national in their application.

That compulsory periodic tire inspection be instituted.

That a voluntary tire conservation program be put into effect until gasoline rationing can be established.

Gas rationing is the only way of saving rubber. Every way of avoiding this method was explored, but it was found to be inescapable. This must be kept in mind: The limitation in the use of gasoline is not due to shortage of that commodity—it is wholly a measure of rubber saving. That is why the restrictions is to be Nation-wide. Any localized measure would be unfair and futile.

This note of optimism is permissible: If the synthetic program herein outlined will fulfill reasonable expectancy, it will be possible to lessen this curtailment before the end of 1943. But until then, any relaxation is a service to the enemy.

In answering the questions of how much rubber do we have and where are we going to get more, the country is dependent, finally, upon the production of synthetic rubber which, it is hoped, will reach its full swing in 1944.

Why not earlier? Why so late? The answers to these queries lie in the past. These errors, growing out of procrastinations, indecisions, conflict of authority, clashes of personalities, lack of understanding, delays, and early nonuse of known alcohol processes, are not to be recounted by us, nor shall we go into the failure to build a greater stock pile of crude rubber. We are concerned with the past record

only insofar as it has seemed to us to cast light on problems of future administration.

To prevent a recurrence of these mistakes, this Committee asks an immediate reorganization in present method and the creation of a rubber administrator. This official will have authority over the policies governing the priceless stock of rubber now on our automobiles, the drivers of which are trustees of our national safety. He will direct the course of the technical and industrial development—wholly new to America—of the synthetic rubber production.

If our hopes are realized, the production of buna-s and neoprene (the two synthetic materials on which we now rely most to replace crude rubber) will total 425,000 tons by the end of 1943. But, on the other hand, the figure might easily fall to less than half that amount if delays occur—delays of as little as 120 days. "Bugs" may be found in plant construction or in the operation of any one of the three processes used in the manufacture of buna-s. With 425,000 tons we should have a margin of safety, a slight one, to be sure, perhaps 100,000 tons above necessary inventories for ourselves and our Allies—for the front. With only 200,000 tons of buna-s produced, our supplies would be exhausted. The successful operation of our mechanized army would be jeopardized.

We cannot afford to take a chance. It is better to be safe than to be sorry. We dare not depend upon unbuilt plants; upon increasing the reclamation of scrap; upon bringing the tire manufacturing capacity up to equal a theoretical synthetic production; upon other unproven factors.

The members of this Committee have full faith in the ability of American industry to lick all these problems, but there is grave uncertainty as to time. Whatever our hopes, or even our reasonable estimates, until the synthetic rubber plants are operating at capacity, and beyond, we cannot take unnecessary risks. We cannot base military offensives on rubber we do not have. All our lives and freedoms are at stake in this war.

Until synthetic comes fully to hand, we recommend that sufficient reclaimed rubber, a small amount of crude, and an increased supply of thiokol, or other substitutes, be made available for the tire replacement and recapping program, which we urge shall go into effect at once.

Perhaps, this should be said: Few believed that 90 percent of our normal supply of crude rubber would be cut off when Pearl Harbor was attacked December 7. And only a few evaluated the situation correctly after that date.

There are almost as many estimates of future supplies—the rubber we do not have—as there are persons and agencies concerned in this problem. It is important to bear in mind that these are only estimates—based upon great intangibles.

How much rubber we shall get from South America, for example, depends on the shifting of nearly half a million natives into the Amazon Valley—it would be one of the great population movements of history—and on how many of them succumb to sickness and disease. It depends, too, on how successful we are in combating the menace of Hitler's underseas raiders.

No one can estimate with certainty the amount of scrap rubber in the United States. About 400,000 tons of scrap rubber were col-



lected in the drive inaugurated by the President last June. This gathered scrap will yield about 300,000 tons of reclaimed rubber. It is true that nowhere near all of the scrap in the country has been collected. However, there already is on hand more than enough scrap to keep the entire reclaiming industry operating at capacity for many months. The Committee is recommending measures to step up reclaiming operations to the fullest capacity and also a 20-percent expansion of existing reclaiming facilities. Until that is done, the accumulation of huge scrap piles is an unnecessary fire and sabotage hazard which gives the Committee much concern.

Roughly, a year will be required to increase reclaiming capacity appreciably. Too, reclaimed rubber is inferior to natural rubber, and its use as a substitute for crude is limited. So again, we find that in the final analysis we are basically dependent upon synthetic rubber.

Failure of the responsible officials to request the aid of Russia in setting up our synthetic system is a neglect for which we have not had a satisfactory explanation. The Soviet Republics have been first or second in the production of this commodity, and we are asking that their know-how be obtained. The Soviet has expressed a willingness always to be cooperative. Russia has lost, through the German advance, between 50,000 and 60,000 tons of its rubber-making capacity.

Among other points to which the Committee directs attention are:

Faulty flow of critical materials may block or delay plant construction.

No new synthetic processes are to be substituted for those approved.

That the present program must be expanded to 1,100,000 tons of all synthetics.

That the road rubber (rubber actually in tires now used on passenger cars and trucks) totals 1,000,000 tons.

In rubber, the United States must be listed as a "have not" Nation.

Once we are secure in our position, we shall be freed from a source of worry that affects the high military and other governmental figures. We shall gain that position through sacrifices. There is no royal road to victory.

Herewith, we submit the digest of our findings and recommendations and, as a separate document, the full report.

Respectfully submitted.

BERNARD M. BARUCH.  
KARL T. COMPTON.  
JAMES B. CONANT.



## DIGEST OF FINDINGS AND RECOMMENDATIONS

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### *Giving civilians more rubber.*

All of the many witnesses who appeared before the Committee urged the need for conserving the rubber now on automobiles. There was disagreement only on methods. The Committee, however, has been concerned not only with reducing the use of rubber but with seeing that enough rubber is provided to maintain a minimum of necessary civilian driving. The Committee does not believe in the doctrine of sacrifice for sacrifice's sake nor that workers should be expected to live in tents and farmers trudge miles to market unless our situation is so desperate that there is no alternative.

Our analysis of supply on hand and expected shows that at best only enough rubber can be made available for civilian use to maintain average mileage of vehicles at 5,000 miles a year. At present the annual average is estimated to be about 6,700 miles which would mean that a further reduction of, roughly, 25 percent in mileage is necessary. The 6,700-mile figure, in itself, is a reduction from the pre-war national average of about 9,000 miles a year. In good measure this voluntary conservation on the part of motorists is a reflection of the fear that when present tires are worn down no new tires will be available. Should this apprehension be relieved by an enlarged tire replacement program, without any other restriction, the Committee fears that voluntary conservation would largely disappear, and the average mileage would shoot up. It would then take 250,000 tons of crude rubber a year to supply all cars with all the rubber they need. If additional rubber is to be made available to civilians, there must be a sure control over rubber mileage. After analyzing every possible method, the Committee finds the quickest, surest, and most convenient check is through the Nation-wide rationing of the use of gasoline.

Therefore, the committee recommends this five-point program of rubber rationing:

1. A reduction of the average mileage to a total not to exceed 5,000 miles per year by Nation-wide rationing of gasoline.

2. Enlargement of the present tire-replacement program to provide sufficient recaps and new tires for the maintenance of this minimum of essential driving, and to prolong to the utmost the useful life of tires now on the road.

3. Prompt and strict enforcement of a Nation-wide speed limit not exceeding a maximum of 35 miles per hour for all passenger cars and trucks. Voluntary reduction to 30 miles will give substantially further mileage.

4. Compulsory periodic tire inspection.

5. An interim program of voluntary tire conservation until the rationing and inspection programs can be put into operation.

*Rationing must be Nation-wide.*

It must be kept in mind that we are not restricting the use of gasoline as such; we are rationing gasoline as the only effective measure to hold down tire use. To make the restriction other than Nation-wide would be unfair and futile.

As part of this program, the Committee recommends that sufficient reclaimed rubber, a small amount of crude, and an increased supply of thiokol or other substitutes be made available immediately for making new tires and retreads for civilian use. Thiokol is a rubber-like material which can be used to make retreads with an average life of about 5,000 miles. At present the production of 24,000 tons a year is planned. The committee recommends the expansion to 60,000 tons a year. With prompt action, this capacity can be provided by early 1943, and more than 50,000 tons produced next year. Thiokol retreads are serviceable only when driven at speeds under 40 miles an hour, which makes a rigid speed limit all the more imperative.

*Conservation essential.*

It must be clear that this program is not intended to give every citizen the right to drive 5,000 miles. This figure is an average which obviously means that the mileage allowed less essential drivers must be cut considerably below that amount to permit greater mileage for more essential drivers. The proper distribution of mileage to various drivers is a matter to be worked out by the responsible governmental agencies.

It should also be stated that, in the Committee's judgment, even this indicated curtailment of driving will be insufficient to meet the situation unless there is an intensification of such conservation measures as car pooling and sharing of rides, and the purchase by the Government of extra tires and spares from persons who do not need them for resale to war workers, farmers, and others who do need them.

*Protecting necessary driving.*

The Committee has given careful consideration to the objections against the use of Nation-wide gasoline rationing to conserve rubber. It realizes that real hardships will be caused many persons, and that some industries, communities, and business pursuits will be particularly hard hit. However, the disadvantages are outweighed by the necessities for a sure, effective method for seeing that essential driving is maintained.

*We are "a have-not" nation.*

Each time a motorist turns a wheel in unnecessary driving, he must realize that it is a turn of the wheel against our soldiers and in favor of Hitler.

The rubber-rationing program proposed here should be considered as providing only a minimum of conservation and not as eliminating the need or value of the voluntary conservation measures now being practiced by many motorists.

The Committee is confident that the American people, once acquainted with the uncertainties of our rubber supply, will gladly accept whatever conservation measures are necessary. If our supply situation is eased—and the expansion of the synthetic program that the Committee is recommending holds out that hope—these conservation measures can later be relaxed somewhat. But until the sound-

ness of the synthetic program has been fully demonstrated, and sufficient capacity is in actual production to meet all our military requirements, it is not safe to borrow, from the rubber we have, for any but the most essential of civilian needs.

When it comes to rubber, we are a have-not nation. If we are to err, it must be on the side of sterner curtailment and conservation to anticipate the worst danger that the war may bring.

*Program unduly delayed.*

While the Committee has not sought to recount the mistakes of the past, it is concerned with the question of whether the present administrative organization is such as to insure the effective carrying through of the program. It is not.

The Committee finds a number of different Government agencies with overlapping and confusing authority over the synthetic rubber program. The conflict between the Rubber Reserve Company, a subsidiary of the Reconstruction Finance Corporation, and the Office of Petroleum Coordinator has delayed and complicated the bringing in of new facilities for the production of butadiene from oil. To make buna-s rubber, the synthetic around which the Government's program has been built primarily, three separate kinds of plants must be erected, for producing styrene, for producing butadiene, and for combining the two—"polymerization" is the technical term. At present the butadiene part of the program is lagging behind the styrene and polymerization capacity. Thus, any delay in getting the greatest possible butadiene production directly reduces the amount of synthetic rubber that will be produced.

The production of synthetic rubber represents an investment exceeding \$600,000,000 and is one of the most complicated technical projects ever undertaken in this country. Yet, in none of the Government agencies has there been a clearly recognized group of independent experts to make the technical decisions. Reliance has been placed on one part-time technical adviser, aided by committees drawn from industry. This technical adviser has testified that on more than one occasion he requested the appointment of an adequate technical staff, in vain. The Committee has found many evidences of procedures bordering on the chaotic in which nontechnical men have made decisions without consulting with subordinates nominally in the positions of responsibility.

There have been many adjustments and readjustments in the synthetic-rubber program. Some of these were inevitable. Some appear to be the result of bad administration.

*Russian help not asked.*

One example of inexplicable administration that we can mention is the failure to obtain detailed technical information concerning the experience of Soviet Russia in making synthetic rubber. Russia has been manufacturing synthetic rubber successfully for more than 10 years. Had the offer of the Soviet Government made in February to exchange full information been accepted, it is conceivable that plants for producing synthetic rubber by the Russian processes might well be on the way to completion. To date we have no detailed information as to the Russian experience, nor analyses of Russian tires. We feel this information should still be obtained.

*Restrictive secrecy.*

One of the more critical technical battles that must be won is in the compounding of synthetic rubber. Synthetic rubber requires more time and effort to fabricate into tires—about one-third less in efficiency is reported. While tires for light passenger cars can be made entirely out of buna-s rubber, thus far in the manufacture of combat and heavy duty tires, which represent about 70 percent of the Army's requirements, a good percentage of crude natural rubber must still be used. As long as crude rubber must be mixed with buna-s, we do not dare cut too deeply into our stocks of crude rubber—a minimum carry-over into 1944 of 100,000 tons is vital.

However, the dissemination of technical information on the compounding of buna-s to all rubber companies has become an accomplished fact only in the last few days. On July 3 of this year an agreement was entered into between the Rubber Reserve Company and four large rubber companies, by which Rubber Reserve alone was permitted to give out information on compounding to other companies. It took 6 weeks of repeated effort for the Rubber Branch of the War Production Board, desiring to launch a program of education throughout the industry, to get this vital information released by the Rubber Reserve.

*New administration.*

We recommend a complete reorganization and consolidation of the governmental agencies concerned with the rubber program. These changes should include:

(a) A directive by the President ordering the Rubber Reserve Company and all other Government agencies to act in all matters relative to the rubber program as directed by the Chairman of the War Production Board.

(b) The appointment by the Chairman of the War Production Board of a Rubber Administrator, delegating to him full and complete authority in all matters related to rubber, including research, development, construction, and operation of plants. The Chairman of the War Production Board should divest himself of all direct concern with these matters.

(c) Establishment of an adequate technical staff, properly staffed under the immediate supervision of the Rubber Administrator, funds to be provided for these purposes.

*Centralize oil operations.*

That the Petroleum Coordinator be directed by Presidential order to act on specific directives from the Rubber Administrator to explore all methods for the production of butadiene from petroleum and natural gas products and to recommend new proposals to the Rubber Administrator for consideration and action. However, to make certain there are no construction delays because of conflicting authority, the construction of all plants and equipment concerned with the production and purification of butadiene from oil shall be under the direction of the Rubber Administrator. The Petroleum Coordinator shall supervise the operation of these plants, after construction, but he shall not change the presently authorized program (or plans for operation) except as approved by the Rubber Administrator.



In delegating this added responsibility to the Petroleum Coordinator, the Committee has sought to secure complete coordination of the butadiene-from-oil program with other petroleum and natural gas requirements, especially for aviation gasoline and for toluene for explosives.

As the situation develops it may be desirable that the funds required for the rubber program be put directly at the disposal of the Chairman of the War Production Board for the purposes of the Rubber Administrator instead of, as at present, indirectly through the Federal Loan Agency.

The most important feature of these administrative changes is the type of man who is appointed as administrator. He should be a man of unusual capacity, a thoroughly competent operating and manufacturing executive, preferably with experience in the rubber industry. No plan of organization can bolster up a weak man sufficiently to meet the difficult problems he must face.

*No changes in processes now.*

The Committee has investigated, with the aid of its experts, the status of the present Government program for the production of synthetic rubber and believes that every one of the processes is technically sound and ultimately will work. The Committee has also investigated many other processes not now in the Government schedule. In its opinion a number of these processes have promise, but it does not believe that any one of them gives sufficient certainty of producing more rubber quickly enough to warrant substituting it for processes already in the program.

In war one cannot wait upon perfection. Any weapon on the battlefield is better than the best weapon on a blueprint. The Committee recommends that the present program be pushed forward with the greatest possible speed, without further change, except that if new projects are adopted, they be made additions to the present program.

*Delays not unlikely.*

The Committee has examined the present status of the Government's schedules and estimates that if the present construction program can be met on the dates specified and technical difficulties in reaching full production are overcome, there will be produced during 1943:

- 400,000 tons of buna-s;
- 30,000 tons of neoprene (in part from private sources);
- 62,000 tons of butyl rubber; and
- 24,000 tons of thiokol (from private sources).

Only buna-s and neoprene can be used for the combat and heavy-duty tires. Between them, these two synthetics and a portion of the butyl rubber could offset the likely deficit of crude rubber which the country faces during the critical year of 1943. It is under present priorities and allocations, however, that there is grave danger that the construction of the synthetic program may be delayed by as much as 4 months. If this occurs, the production of buna-s in 1943 will fall below 200,000 tons, and our supplies of rubber will be inadequate for military needs.

*Critical materials.*

Much has been said of shortages in critical materials. There are two kinds of shortages: The first, where there is not enough to go around for all essential purposes; the second type of shortage is where enough of the material exists, but it is not available when and where it is urgently required. There are a few materials short in the first sense; but many have been short in the second sense of failing to be where needed when needed.

In large part, this has been due to permitting materials to be used for purposes not essential to the conduct of the war; to the lack of vigorous policy of conservation, inventory control, and finding of substitutes; and most of all, to the changing, complicated, and ineffective methods that have been used to distribute materials and to control priorities. Shortages have been accentuated by superimposing upon the heavy military demands and the delayed conversion of civilian industry to war purposes, a vast war construction program approximating \$17,000,000,000. This program will be near completion by the end of this year—about 75 percent is to be finished in January—and all of it about July 1, 1943. Thus, large amounts of construction materials will be released.

After this, the question of critical materials will be eased, provided vigorous measures are taken to increase supplies, to find substitutes, to press research work, to complete conversion, to effect the utmost in conservation, inventory control, standardization, and simplification, and above all, to perfect a simple workable system of priorities for the distribution of materials. Too often an attitude of complacency has been assumed, and there has been a failure to take those vigorous measures necessary to increase supplies working closely with the industries concerned. There has been some disposition to accept the "impossible" instead of trying to overcome it.

The military men must decide what things come first in war production; but it is the duty of this Committee to point out that unless the flow of materials for the construction of these synthetic rubber plants is insured, there will be no rubber in the fourth quarter of 1943 with which to equip a modern mechanized army.

*Expand for safety.*

The year 1943 is so critical for the rubber situation that the production of 100,000 or 200,000 tons of buna-s may be the determining factor in the success of our military program. To add a greater margin of safety to the program the Committee recommends these additions:

A. An increase in the production of butadiene by 100,000 tons, to be obtained from a refinery conversion program, more commonly known as quick butadiene. This process utilizes refinery equipment made idle by the lessened demand for gasoline and which can be brought into production in 6 months. Since butadiene output is lagging behind styrene and polymerization capacity, if this additional butadiene can be made available quickly enough, an additional 40,000 to 50,000 tons of synthetic rubber could be produced in the critical year of 1943. This extra butadiene, too, would furnish insurance against possible difficulties with other plants and be a stand-by capacity as a reserve for the future. To be of greatest value this butadiene

should be brought into production by next spring. Delay on the part of the Government can turn this quick butadiene into slow butadiene.

The Committee is concerned by the efforts on the part of many persons to substitute this so-called quick butadiene process for the regular butadiene plants scheduled in the Government's program. The first thought that occurs to the Committee is "Why now? Why not months ago? Why the sudden activity?" And above all, "Why substitute at this late date?" The Committee recommends the quick butadiene program as an addition to, not a substitution for, the present program.

*A second process from grain.*

B. In addition to the increase provided for through the refinery conversion program, the Committee recommends another increase of 30,000 tons of buna-s. This should come from a plant to be erected during the latter part of 1943 to come into operation early in 1944.

There are two advantages in delaying construction until this time. There is good reason to believe that with the completion of the present huge Army construction program the present tightness of critical materials will be less acute and facilities for fabricating and for chemical equipment will be more readily available. Second, within the next 3 months it will be possible to judge better as to the relative merits of two processes for making butadiene from grain which are not now in the Government program—the so-called Polish process from alcohol and the butylene glycol process from grain.

*Plants in grain areas.*

The plants for the production of this additional 30,000 tons of buna-s by a grain-using process should be located near the grain area. Such units should preferably be operated under the control of a local group.

*More alcohol.*

The estimates of alcohol supplies and needs given us by different agencies vary considerably. If no additional alcohol is provided for the expanded rubber program we have recommended, there is a possibility that at some time in the future the production of smokeless powder and other munitions may soar and alcohol be diverted from the making of rubber. We recommend that facilities for the production of 100,000,000 gallons of alcohol be erected on sites near the grain-producing areas and accessible to water transportation. This would make it possible for molasses to be brought to the plants by barges after the war in the event that the manufacture of alcohol from grain proves uneconomical.

In recommending this addition to our alcohol facilities, the Committee wants to make clear that it is providing only enough additional alcohol to meet the increased demands of the expanded synthetic rubber program. The Committee is not saying that that is all the extra alcohol that may be needed for all war purposes. By the use of newly developed apparatus, these alcohol plants can be constructed with but little expenditure of critical materials.

*No food shortage.*

The Secretary of Agriculture has assured the Committee that no concern need be felt that an expansion of the alcohol and butadiene from grain will interfere with our food supply. After all food requirements that can be anticipated now are met, there still will be upward of 1,250,000,000 bushels of wheat left on this continent.

*Relaxing restrictions.*

If by the end of 1943 the actual production of synthetic rubber measures up to schedule and if synthetic rubber can be used readily, or if military or export need for rubber prove less than now anticipated, it should be possible to relax the restrictions somewhat on civilian driving. Before that can be done, however, there must be an assurance that at least 150,000 tons of buna-s rubber a year will be available, in excess of military needs, for civilian purposes.

Under the rubber-rationing program recommended by the Committee, civilians will continue cutting into their capital—the rubber on their tires—although at a much lesser rate than now. By 1944 a further expansion of tire replacement for civilians to repay this “borrowed rubber” will be necessary. One of the impelling reasons for the Committee’s recommendation that the synthetic rubber program be expanded is because we desire to see the rubber turned out that will keep America on wheels.

*More neoprene.*

As a margin of safety on the military side, we recommend the construction of 20,000 tons a year of additional neoprene capacity. Neoprene is the one synthetic rubber which has been shown to be the full equivalent in quality of natural rubber for combat and heavy duty tires, either by itself or in combination with buna-s. The relative high cost of neoprene in terms of critical materials and electric power needs are offset by the fact that it is an insurance against the possibility that our imports of natural rubber, already reduced, may be cut off or that the production of buna-s in 1943 be delayed, forcing us to cut too deeply into our crude stock pile.

*The new program.*

The War Production Board has fixed the total annual output of buna-s rubber at 705,000 tons for the United States. The Committee recommends that this ceiling be raised by 140,000 tons to 845,000 tons. Additional styrene and polymerization capacity should be built, as necessary, to take care of the increased production of butadiene. This expansion should be directed to produce the maximum possible amount of buna-s before January 1, 1944.

In addition to buna-s, the expanded program recommended by the Committee calls for 69,000 tons of neoprene, 60,000 tons of thiokol, 132,000 tons of butyl, with other synthetics like flexon being added to the program if they can be brought in during 1943 after being adequately tested.

*Standardizing polymerization.*

At present four of the large rubber companies have designed their own polymerization facilities, each differing somewhat from the others. Each type of facility represents the best efforts of a group of keen technical men. Last May, Rubber Reserve decided to standard-



ize all the polymerization plants to be constructed chiefly to save critical materials. In essence, this means standardizing the operation.

The design now ready is a compromise of the ideas of four separate technical groups. It may or may not incorporate the best ideas of each; on this point there are grave reasons for doubt. At all events, no one has ever operated such a standardized plant. The Committee does not wish to criticize the decision, but does recognize the need for the immediate construction of one such standard plant so that experience with its operation can be obtained at the earliest moment. We recommend the swift construction of such a plant.

#### *More protection.*

Sampling inspections were made of a number of crude and scrap rubber stock piles and of the methods being used for their protection. While the situation in general is satisfactory, a number of spots were found where protection from fire is definitely inadequate. The Committee suggests the advisability of more adequate protection. These stock piles constitute some of the most critical possessions of the Nation.

#### *Plant capacities.*

A very important consideration in connection with the synthetic rubber program has to do with the capacity of the country to manufacture rubber goods out of the natural and synthetic rubbers which will be available. It would be obviously foolish to carry through a program of plant construction for the manufacture of synthetic rubbers only to discover too late that the fabricating facilities were insufficient to handle the rubber.

The Committee has made a survey of these facilities and finds that, as matters now stand, there will not be sufficient factory capacity to deal with the quantities of synthetic rubber that will be produced in 1944. One important limiting factor is that, at present, it takes about a third more time to fabricate synthetic than natural rubber. While this would indicate that the capacity of the industry should be increased, the technical developments in the art of processing are proceeding very rapidly and the time required to manufacture synthetic goods certainly will be reduced. It follows that output will be increased. The Committee has been informed that the decision on whether to expand capacity can safely be deferred to April 1943 and therefore recommends that the Rubber Administrator review the problem early next year.

The Committee's finding and recommendations on plant capacity are given in greater detail in the full body of the report, which in addition contains other detailed recommendations and findings.

#### *Free competition.*

In concluding this summary of findings and recommendations, the Committee wishes to point out that never before has this country embarked on an undertaking comparable to the development of the synthetic rubber program. It is not only an ambitious technical project that must be rushed to completion at breakneck speed but in large measure it is a new political and economic undertaking. It seems to us of vital importance that this program be managed in a spirit of the fullest competition and interchange of information among

all groups. On the one hand there should be the most complete interchange of information and on the other, as much competition in research, development, and operation as possible. Such, after all, are the conditions in the field of laboratory science where during the last hundred years such tremendous strides have been made—cooperation and competition going hand in hand.

Nor is the Committee unaware that the production of synthetic rubber is potentially a large new post-war industry and that different groups will be contesting for a share in this post-war industry. This struggle should not be allowed to obscure the basic facts of our situation as regards the war and rubber. No matter what processes were provided in the program there would be the same uncertainties as to the future, the same huge requirements, the same threat to our essential civilian economy, and the same necessity for conserving the rubber we have until our new rubber comes in.

The Committee recognizes that there still is room for reasonable scientific disagreement over many of the processes for making rubber that are being developed. It is quite possible, even likely, that before much of the synthetic rubber now planned is produced, better processes will have proven themselves. In any new industry the processes of today are outmoded by the processes of tomorrow and tomorrow's by those of the next day. However, our need for rubber quickly is too great to wait upon perfection and if this Committee were to advise the newly appointed Rubber Administrator it would say, "bull the present program through."

*For victory—Unity.*

In drawing up these recommendations the Committee has sought to find a basis upon which the entire Nation can go forward together, uniting our energies against the enemy instead of dissipating them in domestic wrangling. It appreciates that it is asking the public to make sacrifices because of mistakes that have been made and for which the people are not to blame. But wrong things done in the past cannot be cited as a defense for making mistakes in the future. The war demands that we do these things. Victory can be won in no other way.

THE COMMITTEE,  
JAMES B. CONANT,  
KARL T. COMPTON,  
BERNARD M. BARUCH,  
*Chairman.*

SEPTEMBER 10, 1942.

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Without synthetic rubber, our stocks of new rubber would be exhausted during 1943. If synthetic rubber production now planned comes through on schedule, we can get through, but without adequate reserves against contingencies. The allotment of a small amount of reclaim and synthetic material will provide a tire-replacement and recapping program, but only with drastic restrictions on civilian driving.

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In order to maintain civilian driving to a degree necessary for public morale, avoidance of unnecessary hardship, and efficient functioning of our economy, the Committee recommends a program of civilian automobile-tire conservation based on supervised recapping and replacement of tires to maintain cars in operating condition, safeguarded and combined with universal enforcement of a 35-mile-per-hour speed limit, tire inspections, and reduction in mileage to a national average of not over 5,000 miles per car. It further recommends Nation-wide gasoline rationing as the quickest and most workable method for conserving rubber through control of mileage. It also recommends an expansion of the thiekol program for recapping by 36,000 tons.

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To safeguard the military situation in the critical year 1943 against possible delays in synthetic rubber production, or failure to secure expected crude-rubber imports, or further expansion of requirements dictated by enemy actions or new strategy; also to provide the additional rubber needed to maintain the civilian automobile use outlined, the Committee recommends (1) that there be no further substitutions in the plans now laid down; (2) the immediate authorization of an additional 140,000 tons of buna-s capacity per year; (3) the immediate institution of a refinery conversion program to yield a total of 100,000 tons of butadiene in addition to that now planned; (4) the immediate adjustment in the rates of construction of present styrene and polymerization plants in order to obtain the maximum production of buna-s in 1943; (5) the construction of an additional plant for the production of 20,000 tons of neoprene per year; (6) the erection of a 27,000-ton butadiene plant from grain and an associated polymerization plant to produce 30,000 tons of buna-s, both to be located near the center of grain production; the construction to be started 6 months hence unless the Rubber Administrator determines otherwise; the process to be employed to be determined in the light of the information then available; (7) the immediate erection of alcohol plants to produce 100,000,000 gallons per year, using recently developed apparatus; the plants to be erected on sites near the grain-producing States and located on water transportation.

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# REPORT OF THE SPECIAL COMMITTEE TO STUDY THE RUBBER SITUATION

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## 1. STATEMENT OF THE PROBLEM

Of all critical and strategic materials, rubber is the one which presents the greatest threat to the safety of our Nation and the success of the Allied cause. Production of steel, copper, aluminum, alloys, or aviation gasoline may be inadequate to prosecute the war as rapidly and effectively as we could wish, but at the worst we still are assured of sufficient supplies of these items to operate our armed forces on a very powerful scale. But if we fail to secure quickly a large new rubber supply our war effort and our domestic economy both will collapse. Thus the rubber situation gives rise to our most critical problem.

Our position with respect to this vital commodity may be briefly outlined as follows:

The demands now placed upon us are enormous. Without any allowance whatsoever for civilian passenger-car tires, the estimated requirements for the year 1943 are 574,000 tons. This contrasts with the total average over-all consumption in the United States before the war of over 600,000 tons. We must supply not only the needs of our own armed forces but much of those of the military machines of our Allies as well. We must equip our busses and trucks and other commercial vehicles and provide on a large scale specialty items for such purposes as factory belting, surgical, hospital and health supplies. And in addition to all these we must maintain the tires on at least a substantial portion of our 27,000,000 civilian passenger automobiles. Otherwise an economy geared to rubber-borne motor transport to an extent not approached elsewhere in the world will break down.

To meet these demands we may look to four main sources of supply:

First. Our present stockpile of natural rubber and such additions as may come to it from natural rubber imports from Latin America, Africa, and other rubber-producing lands. These are comparatively small.

Second. Our present stockpile of scrap rubber, estimated as sufficiently large with yearly additions to operate our reclaiming industry at present capacity through the year 1945.

Third. The production of synthetic rubbers.

Fourth. We possess in the tires of our automobiles a priceless reserve, which must be guarded with greatest care. It represents a stockpile of some 1,000,000 tons of rubber applicable to the uses of our civilian transportation and the needs of the day-to-day life of our people.

Having lost to Japan 90 percent of our pre-war source of natural rubber, chief reliance on new supplies of rubber must be placed on



the new synthetic rubber program. But to obtain this in time we must, within 2 years after Pearl Harbor, have created one of the largest industries in the country. Normally such a development would require a dozen years. To compress it into less than 2 years is an almost superhuman task.

Our Committee is convinced that the Government's present program is technically sound. From this time on the important thing is to get on with it without further delay.

In drawing up the recommendations which follow, the Committee has sought to find a basis upon which the entire Nation can go forward together, uniting our energies against the enemy instead of dissipating them in domestic wrangling. It appreciates that it is asking the public to make sacrifices because of mistakes that have been made and for which the people are not to blame. But wrong things done in the past cannot be cited as a defense for making mistakes in the future. The war demands that we go forward from this point united and resolved to win at any cost.

## 2. PROCEDURE OF THE COMMITTEE

This Committee was asked "to get the facts and make recommendations." To this end, immediately after its appointment it assembled a competent technical staff of approximately 25 men of whose competence we had knowledge through first-hand experience. With the aid of this group the Committee has endeavored as far as humanly possible in the time at our disposal to get the facts and draw from these facts the logical conclusions.

With the aid of experts in the art of rubber manufacture and rubber compounding and with the assistance of a group of chemists and chemical engineers, we checked so far as possible the chemical processes involved in the Government program and those suggested by individuals and companies not yet included in this program. For this purpose members of our staff traveled throughout the eastern, southern, and middle western sections of the country, examining plants, consulting the technical experts concerned with the progress of the program and in the construction of new facilities. With their aid, we also examined carefully the present status of all tests throwing light on the adequacy of the new synthetic materials for military and civilian purposes, as well as the potentialities of numerous materials which have been suggested for the recapping of tires or special uses in the rubber program. We also examined at first hand into the condition and state of protection of the Nation's stock pile, which must serve as the essential backlog of our efforts until synthetic materials can be brought into substantial production.

Special checks likewise were made by men competent in business and engineering associated with the Committee, as to the rate of construction of scheduled plants and the situation with respect to the allocation of strategic materials to these plants and the granting of the necessary priorities. The capacity of the country to produce the essential raw materials for the development of the synthetic program also was checked. We have endeavored with the aid of competent assistance to evaluate the potential requirements of this country and

the United Nations and have made our estimates of the probable supply, present or to come.

In addition to interviewing, through our staff, a number of persons familiar with the various aspects of the rubber situation, we heard formally many officials of the Government as well as representatives of industry. A great number of documents from governmental and other sources were put at our disposal, and we examined these records with care. The printed records of hearings before the committees of Congress which deal with this subject run to many pages. We reviewed the evidence thus presented as of value on many points. All of the congressional committees who had interested themselves in the problem were asked for their suggestions or recommendations and many stimulating suggestions were made. Particularly helpful were the committees under the chairmanships of Senators Truman, Gillette, and Murray. In conclusion, it is a pleasure to acknowledge that from all with whom we have been in touch we have received the maximum of cooperation.

### 3. ANALYSIS OF THE SUPPLY AND DEMAND FOR RUBBER

The natural starting point for a consideration of our national rubber problem is an estimate of the essential needs during each of the next few critical years, and a corresponding estimate of the sources of supply from which these needs may be met. Many such balance sheets of the national position have been drawn up by various governmental agencies during the past 8 months, and authoritative revisions must be made from time to time to give warning if our program is running behind expectations, or to give opportunity to make additional important military uses of rubber if the program should run ahead of schedule, or to relax restrictions on civilian driving.

In arriving at the data presented in the following tables, which form the principal bases of the Committee's conclusions, we have tried to be neither unduly optimistic nor unnecessarily pessimistic. The figures in each case represent our best judgment of expected performance. We realize, and this should be continually borne in mind, that unanticipated events may change many of these figures substantially. We should also bear in mind that there are many more circumstances which might arise to change the figures unfavorably than there are to change them favorably. Such circumstances are likely to arise for human rather than technical reasons, and some of these circumstances will constitute the basis of recommendations in sections 7 and 8.

Considering first the anticipated supplies of all types from all available sources, our estimates are presented in table 1. In this table have been included certain additions of neoprene and thiokol to the present governmental program, in accordance with recommendations presented in section 6. However, the recommendations there given for increasing the supply of buna-s rubber as a safeguard for the critical year of 1943 and a backlog to maintain civilian transportation after 1944 are not included in this table.



Before any consumption, the supply of rubber available to the United States, as estimated by the Committee's staff, is as follows:

TABLE I.—*Supply*  
[In thousands of long tons]

|               | Present<br>stocks,<br>July 1,<br>1942 | Expected,<br>1942,<br>6 months | Additions |      |
|---------------|---------------------------------------|--------------------------------|-----------|------|
|               |                                       |                                | 1943      | 1944 |
| Natural.....  | 578                                   | 12                             | 41        | 68   |
| Buna-s.....   |                                       | 0                              | 386       | 705  |
| Neoprene..... |                                       | 4                              | 30        | 59   |
| Butyl.....    |                                       | 0                              | 62        | 132  |
| Thiokol.....  |                                       | 0                              | 54        | 60   |
| Reclaim.....  | 47                                    | 160                            | 360       | 400  |

Against these supplies of natural and/or synthetic rubbers, the presently estimated total requirements for various categories of essential use are presented in table II. In this table the use of synthetic rubbers has been stated in terms of equivalent tonnage of natural rubber by the use of factors depending upon the specific gravities and resistances to wear of the various types of rubbers, as appropriate to the specific uses included under each classification. The item "Private transportation" does not include the reclaimed rubber or synthetic materials necessary to maintain private passenger-car transportation, these being shown in table V. The item "Private transportation" does, however, give the amount of natural rubber which would have to be used in addition to the reclaim and synthetic rubbers of table V as a cement for tire recapping purposes. The item "British deficiencies" shows the expected requirements of the British Empire excluding Canada as its accumulated stock pile of natural rubber is consumed.

TABLE II.—*Estimated total requirements of natural and/or synthetic rubbers (in terms of natural)*

[In thousands of long tons]

|                             | 1942,<br>6 months | 1943 | 1944 |
|-----------------------------|-------------------|------|------|
| Military.....               | 138               | 325  | 325  |
| Private transportation..... | 1                 | 3    | 3    |
| Commercial vehicles.....    | 28                | 59   | 85   |
| Other civil uses.....       | 24                | 49   | 50   |
| Foreign countries.....      | 74                | 117  | 103  |
| British deficiencies.....   | 0                 | 24   | 106  |
| Total.....                  | 265               | 577  | 672  |

The item "Commercial vehicles" in table II refers primarily to passenger busses and trucks whose operations are controlled by the Office of Defense Transportation with cooperation of the Office of Price Administration in matters of rationing. Under the Office of Defense Transportation steps have been taken to conserve rubber through consolidation and rerouting of commercial traffic, and as this is written, by an order requiring a certificate of necessity and imposing gasoline rationing. Our Committee believes that further

savings can be made through elimination of cross hauls and more stringent substitution of alternative types of transportation not requiring rubber. Our estimates in table II for commercial vehicles depend upon limitation of speed, conservation of tire wear, and maximum proper loading.

The item "Other civilian uses" includes several hundred items such as rubber hose, belting, electrical insulation, storage battery separators, industrial footwear, medical equipment, etc. The Committee has carefully examined the program of the Rubber Branch of the War Production Board with reference to the elimination of unnecessary use of rubber in such items or the substitution of lower grades of rubber and is convinced that a thoroughly competent job has been done in reducing the use of rubber in such items to a point at which very little further reduction can be expected in this list. A few remaining possibilities are being actively studied by the Rubber Branch, but the sum total of all such possibilities is estimated to be so small that the time when the Nation might run out of crude rubber could not be postponed more than 10 days if all such reductions, some involving considerable hardship, were enforced.

An essential part of our rubber supply is in the form of reclaimed rubber secured from the stock pile of scrap rubber. To the estimated 47,000-ton stock of reclaimed rubber on July 1, 1942, is added year by year the additional amounts of such rubber which it is estimated can be produced by the capacity of our rubber reclaiming plants. These plants are not now running to capacity because of the governmentally enforced limitations in allocation of reclaimed rubber to manufactures. The demands listed in table III are based on the assumption that all possible excess of reclaimed rubber be allocated to maintenance of civilian passenger car tires. In order to secure these amounts for private transportation, and to insure adequate provision for military and other needs, the Committee recommends in section 10 that plant capacity for producing reclaimed rubber be expanded as rapidly as possible above its present limit of 350,000 tons per year, and the effect of such expansion is reflected in the estimates of "supply."

TABLE III.—*Estimated supply and requirements of reclaim*

[In thousands of long tons]

|                                           | 1942, 6<br>months | 1943 | 1944 |
|-------------------------------------------|-------------------|------|------|
| Supply.....                               | 207               | 360  | 400  |
| Requirements:                             |                   |      |      |
| Military.....                             | 37                | 84   | 84   |
| Commercial vehicles.....                  | 18                | 33   | 43   |
| Other civil uses.....                     | 72                | 146  | 146  |
| Foreign countries.....                    | 18                | 21   | 21   |
| Balance available for passenger cars..... | 62                | 76   | 106  |

If in the requirements in table II we substitute the various types of synthetic rubber to the extent that they are expected to be available and for purposes for which they are suitable, we can, from tables I and II, deduce the amounts of crude natural rubber which we will have on hand at various times, as indicated in table IV. In deriving this table we have reserved for civilian passenger-car-tire use all of the thiokol of table I (since this material is not suitable for

many other uses), and we have also reserved a small amount of butyl rubber and a considerable amount of buna-s rubber in 1944 for similar purposes, as shown in table V. With these reservations the amounts of natural rubber available in the United States are as shown in table IV.

TABLE IV.—*Estimated crude natural rubber in the United States, after application of synthetic rubber substitutes*

[In thousands of long tons]

|                           | 1942 (6 months) | 1943 | 1944 |
|---------------------------|-----------------|------|------|
| Balance on hand.....      | 578             | 328  | 224  |
| Added during period.....  | 12              | 41   | 68   |
| Requirements.....         | 262             | 145  | 51   |
| Annual excess.....        |                 |      | 17   |
| Deficiency.....           | 250             | 104  |      |
| Balance carried over..... | 328             | 224  | 241  |

The amount remaining for application to civilian passenger transportation is estimated to be as shown in table V.

TABLE V.—*Estimated rubber applicable to civilian transportation*

[In thousands of long tons]

|                    | 1942 (6 months) | 1943 | 1944 |
|--------------------|-----------------|------|------|
| Crude natural..... | 1               | 3    | 3    |
| Buna-s.....        | 0               | 0    | 185  |
| Butyl.....         | 0               | 0    | 15   |
| Thiokol.....       | 0               | 54   | 66   |
| Reclaim.....       | 62              | 76   | 106  |

Two comments on the above tables are important. The first is that the amount of rubber available for civilian passenger-car tires is a relatively small residual left over from a very large program, and must absorb the shock of any miscarriage of our plans. The Committee has assured itself that a strong effort has been made to hold the military, Allied, and other civilian requirements to a minimum. Since the amount left over for civilian passenger tires is a small residue, any unfavorable change in the above figures would tend to squeeze out the amounts left for civilian driving. This is the strongest argument for a drastic program for conservation of the existing tires on civilian passenger cars, since any failure to conserve these tires, combined with either an increase in military requirements or a delay in securing the expected production of synthetic materials, would result in a complete break-down of civilian passenger-car transportation in 1944 or 1945.

The other important comment is that the balances shown for crude rubber in table IV are very little above the requirements of prudence. This can be illustrated by examining the balance of 224,000 tons expected to be left at the end of 1943. This balance includes the inventories necessary to manufacturers of rubber goods in order that

they may continue manufacturing operations without delays, caused by temporary transportation or procurement difficulties. Of this 224,000 tons, about 50,000 tons would represent a 30-day inventory for American manufacturers, which is none too large. Another 4,000 tons can be considered as a reasonable inventory for Canadian manufacturers. The Committee believes that at least 66,000 tons should be considered as an inventory of stocks on hand in Great Britain to permit her rubber goods manufacturing to proceed in case there should be several months' interruption of transportation on account of a possible change in the naval situation in the Atlantic Ocean. Thus about 120,000 tons out of the 224,000-ton balance is to be considered a necessary "working inventory." The balance of 100,000 tons is certainly none too large for safety when one considers that a delay of 2 months in the presently expected production schedule for buna-s rubber would completely wipe out this balance. In this connection it must be remembered that a substantial amount of crude rubber must always be in hand to blend with synthetic materials for various important uses.

For these reasons the Committee feels that an analysis of the balance sheet indicates: (1) That we can survive the rubber crisis without serious impairment of our military program or domestic economy if the plans go through on schedule, but that (2) the margin of safety is uncomfortably small in view of reasonably possible unfortunate contingencies. The Committee therefore recommends in section 6 certain expansion of the present program to aid the civilian driving program and as an insurance against such contingencies.

The Committee also recommends that War Production Board through the Rubber Administrator scrutinize all requirements, foreign and domestic, submitted for rubber, to the end that only actual needs be allowed for.

#### 4. RUBBER REQUIREMENTS OF THE ARMED SERVICES

The rubber requirements of the armed services have been stated in terms of over-all tonnage in table 2 of chapter V. It would not be appropriate in this report to discuss the individual items which make up these requirements. Suffice it to say that our Committee have examined these requirements in some detail and submit the following comments.

It is reassuring to note that the Army has cut its requirements by about 45 percent; the Navy, by about 35 percent with expectation of raising this to 45 percent. These differences are largely on account of the differing types of requirements in these services, and the Committee believes that both services have handled their rubber-conservation program sincerely and effectively. The Committee accepts at full value the statement that substantial further reductions cannot be made without a serious reduction in military efficiency. It also recognizes that large combat losses might, on the other hand, substantially increase the rubber requirements of the armed services above their present estimates.

The following comments amplify the general statement just made and are based upon the Committee's examination of the estimates



and performances of these services. In general, the estimates are based upon:

(1) A recognition of the dangers inherent in the short supply of rubber.

(2) A sound method of calculation of needs on the present facts as to the size of the armed services. (The Committee does not attempt to measure the need for the items using rubber, but only the need for rubber is estimated if the items are purchased.)

(3) The establishment of an organization to develop and push the conservation program, with competent personnel, keeping in touch with all developments in the conservation of rubber.

(4) A quite complete policy as to the elimination of rubber articles formerly in use in the service and providing for substitutes generally where possible.

(5) A careful examination of all specifications covering rubber goods so as to reduce the crude rubber content, and increase the use of reclaimed rubber or substitutes.

(6) Tests for utilization of rayon, nylon, and steel (in place of cotton), which, being stronger, will demand less rubber.

(7) A comprehensive plan for conserving rubber in use and suitable orders and instructions covering its operation.

While there is no adequate measure as to the actual accomplishments in the field, the reports from inspection are encouraging in some spots and discouraging in others, but the organization set-up appears sound. In one area of extensive Army training maneuvers where previous inspections had disclosed very wasteful practices in the use and abuse of tires, a recent inspection by the same experienced civilian group led to their report that the tires in this area were now being conserved with at least as good care as would be found in an operating fleet of commercial vehicles. This part—the making of the plan effective in the field—will require a vigorous follow-up, training of operating and inspecting personnel, aided by rigid inspections, and adequate disciplinary measures.

All these things can be done readily without interfering with military effectiveness. Three other aspects of conservation of rubber are under study by the services and some progress has already been made, but there is need for careful work and prompt decision as to whether:

(a) The conditions under which equipment will be used permit redesign of the equipment so as to save rubber; for example, the use of steel wheels or rims instead of rubber tires to a greater extent.

(b) The experience in combat does not warrant the use of equipment using either lower grade or less rubber, so that the rubber will not be planned to outlast the remainder of the equipment.

(c) Requirements for spares cannot be materially reduced.

(d) Inner tube requirements cannot be cut as tubes outlast tires.

(e) Depreciation is not less than estimated, due to the conservation plans.

The full utilization of existing inventories through complete inventory control, the avoidance of purchases whenever possible, the scrutiny of all unusable items—both new and scrap—in inventory and providing for their prompt utilization in the armed services, or elsewhere in the war effort are matters now in hand but still demanding rigorous prosecution.

The armed services assure us that this entire program will be carried out to the limit.

The savings expected are not large and if attained they are enough only to provide a small factor of safety required for the whole national program.

#### 5. TIRES FOR PASSENGER AUTOMOBILES

The adoption of a policy for conservation of civilian-owned tires and its enforcement at the earliest possible moment is unquestionably the most urgent item still remaining unsettled in the rubber program. The cost to our war effort of not doing this would far exceed the cost in materials and rubber of doing it.

It must be remembered that practically nothing has been done during this year to supply tires for the 27,000,000 passenger cars now on the road. In normal years about 250,000 tons of crude rubber has been consumed annually in meeting this demand. Many tires are now reaching the point where they will become unusable, and unless something is done at once to provide recaps and a limited supply of new tires we shall be headed for a drastic break-down in the not-far-distant future. It has been estimated that by April of 1943, one-half of the tires on passenger automobiles will be worn to the point where they should be recapped. Clearly if such a condition is reached it would not be many months before our civilian economy collapsed.

In the Committee's opinion it is unfortunate that the Government was not able to institute a tire replacing and recapping program last spring. If it could have been done many billions of car-miles of rubber would have been conserved. It is of the utmost importance that this program be instituted at once together with provisions for adequate tire inspection. Experience has shown that out of every 100 tires ready for recapping only about 60 can be thus repaired. The other 40 tires must be replaced by new tires. It is primarily this fact which sets the limits to any program which can now be instituted for conserving our rubber-borne transportation through a recapping program. For example, if we were to decide tomorrow to provide enough new tires and recaps to carry the 27,000,000 passenger cars through 1943, with unrestricted driving as to speed and mileage on the pre-war level, about 250,000 tons of crude rubber or its equivalent would be required. Clearly the allocation of such amount of crude rubber or synthetic material for the use of civilian passenger cars is fantastic. The Committee must emphasize once again that the critical time for the country, as far as rubber for its military effort is concerned, is the third quarter of 1943 and the quarters immediately succeeding. This is evident since many of the plants now under construction for the production of synthetic rubber will not reach full operation until the latter part of the coming year. Our analysis shows that even with the optimistic estimates of the total quantities of new crude and synthetic rubber that will be available the amounts of this that we will be able to spare for the purpose of civilian passenger cars will be sufficient for a recapping and tire replacement program only, provided that strict conservation measures are instituted at once.

The Committee is well aware of the fact that the American people are quite prepared to make any sacrifice that is needed for the winning of this war. No one will complain of hardships or discomfort when he



thinks of the young men who are now preparing to give their lives freely on distant battle fronts throughout the world, but the Committee does not believe in the doctrine of sacrifice for sacrifice's sake. Neither do we believe that civilian workers should be expected to live in tents and walk several miles to work unless it can be demonstrated beyond the shadow of a doubt that the situation is so desperate that there is no alternative except that of inviting military defeat. Consequently, the Committee has explored carefully the amount of rubber which can be spared for the purpose of keeping the passenger cars of the country in operation. We realize full well that beyond some point we cannot limit the amount of transportation thus carried throughout the country without severe effects on our war program. Indeed we have been given estimates that point to the fact that unless approximately 50 percent of our normal annual car mileage can be maintained our normal productive effort would be seriously retarded. Necessary civilian needs are a part of the war effort. Ludendorff complained that the home front crumbled before the war front. We must provide for the bottleneck of lessened automobile transportation before it occurs.

If we could be absolutely certain that all the production of synthetic rubber planned for 1943 would come in on time and that no difficulties would be had in the initial stages of using this material, it might be safe to draw on the existing stocks for the rubber with which to manufacture tires for passenger cars. It is essential, however, that we have a margin of safety for our military effort, and no civilian in this country would ask the Government to jeopardize our war machine through lack of rubber in order that he might drive a few miles farther in his car.

The average annual mileage of the passenger automobiles before the war has been estimated as approximately 9,000 miles. Today the figure usually quoted is 6,700 miles. It is clear that in the non-rationed areas this diminution in annual mileage is a result of voluntary restriction brought about largely by the fear that no further tires will be forthcoming for the owner of a private car. There is every reason to believe that as soon as a tire replacement and recapping program were announced without restrictions, drivers would feel that the danger had been passed and would increase both their speed and their mileage to almost post-war levels. If this were done the amount of rubber consumed by any recapping and tire-replacement program would reach figures so large as to go beyond our expectations of supply in the critical year 1943—250,000 to 300,000 tons of buna-s, almost the entire production if the least optimistic estimate proves to be correct.

Strict enforcement of a speed limit of 35 miles per hour for private automobiles together with adequate tire inspection are extremely important factors in conserving rubber. The Committee recommends that these measures be instituted at once on a Nation-wide scale. On this basis it would be possible to provide enough new tires and recap to maintain the program here recommended, if a maximum of 138,000 tons of reclaimed rubber were made available during the next 16 months for the purpose of keeping the passenger cars of the country in operation. (The small amount of crude rubber which is required in connection with the recapping program amounts to only a few thousand tons.) This amount of rubber, supplemented by syn-

thetic materials as shown in section 6, we believe, will enable the Nation to maintain approximately the present number of passenger automobiles at an average annual mileage of 5,000 miles.

In order to insure that this mileage will in fact prevail the Committee recommends that Nation-wide gasoline rationing be instituted at the earliest possible moment under policies to be determined by the Office of Defense Transportation and implemented by the Office of Price Administration. The Committee has examined various alternatives to gasoline rationing as a means of conserving rubber, but by no other procedure can we be certain that the annual mileage will be held to the figure we name. We must have some assurance so that those individuals who are ready to lead in the conservation of rubber will not be taken advantage of by the small percentage of the population who are not ready to follow.

It must be clear that this program would not give every citizen the right to drive 5,000 miles. This figure is an average which obviously means that the mileage for unnecessary driving must be cut very considerably below this figure, in order that essential driving requiring greater mileage may be maintained. The proper distribution of mileage to various drivers is a matter which would be worked out by the responsible governmental agencies.

It should also be stated that, in the Committee's judgment, even the above drastic curtailment of driving will be insufficient to meet the situation unless there is further increase in the practice of car pooling and sharing of rides. Extra tires of popular sizes now in the possession of persons who will not need them could be made available for essential uses under a suitable program of pooling through voluntary sale to the Government.

Every day of delay in putting the above program into effect will mean irretrievable, unnecessary loss of rubber by America and will build up, if long delayed, a day of disastrous reckoning. The Nation is now driving on rubber borrowed from a happier past. Without recaps and replacements the majority of civilian cars would be forced off the road by irreplaceable tire failures.

If, by the end of 1943, actual production is realized from the synthetic rubber plants under construction to the extent that is now scheduled, and if the synthetic rubber can be used as readily as it is believed, or if the military and export demand for rubber should actually prove to be substantially less than is now anticipated, it would be possible to draw further upon the stocks of rubber before 1944 for civilian passenger car use. In that case, the restrictions on driving can be lessened, provided that the Rubber Administrator feels sure that before 1945 at least 100,000 to 150,000 tons of buna-s will be available for tires for civilian driving. In order to make certain that this will be the case the Committee is recommending elsewhere such an expansion of the present synthetic program as to provide for this excess synthetic rubber. This, we believe, can be done without interfering with the war program. The drastic conservation measures recommended for the year 1943 may therefore be somewhat relaxed after another 12 months has passed, if the situation in regard to synthetic rubber is as rosy as we may hope.

At this point the Committee wishes to correct the erroneous impression which has been spread abroad to the effect that tires on cars standing in the garage will deteriorate almost as rapidly as if they were

being driven. This idea is completely wrong. When standing under proper conditions in a garage the deterioration of the tires amounts to only a very few percent, even in the course of an entire year. The conditions which must be observed are that the tires must not be allowed to stand uninflated, that they should not be allowed to stand on oil or grease, and that the car should be jacked up to relieve the pressure on the tires if the car is to stand for several months without use. High temperature and sunlight also have a deleterious effect. With any reasonable observance of these precautions, cars may be kept in storage with almost complete saving of the remaining mileage in the tires.

In the interim the Committee is confident that the American people, once they are acquainted with the true facts in regard to our rubber supply, will gladly accept whatever conservation measures are required.

To sum up, our recommendations, insofar as passenger automobiles are concerned, are as follows:

1. Immediate institution of a tire replacement and recapping program through the allocation of reclaimed rubber for that purpose.

2. Nation-wide gasoline rationing to hold the average annual mileage to 5,000 miles under the general direction of the Office of Defense Transportation.

3. Prompt and strict enforcement of a Nation-wide speed limit not exceeding 35 miles an hour for private passenger cars and trucks.

4. Compulsory periodic tire inspection.

5. A voluntary interim tire-conservation program until gasoline rationing can be instituted.

In order to provide for the recapping program which we have previously outlined, it will be necessary to expand immediately the facilities for the production of thiokol. At present the country has plants for the production of 24,000 tons per year from private sources; this should be enlarged by Government-sponsored plants to produce 36,000 tons by conversion of present existing idle plant capacity, giving a final total of 60,000 tons per year. Thiokol is most rapidly produced of all of the synthetic materials which are suitable for the retreading of civilian tires. The amount indicated will be needed to help carry civilian passenger tires through the years 1943 and 1944. If prompt action is taken the additional thiokol should be in production by January 1943.

Adequate tire inspection is one important element in the conservation program. In general, where industry can be organized to function, great care should be taken not to build a duplicate governmental organization. This has special reference to periodical examination of civilian tires. It would seem very much easier to license recognized tire dealers and repair men who have experienced help and who are fully equipped for the purpose of examining tires and advising as to their maintenance. Such an organization could be created almost overnight. Rationing boards would then be governed by the reports presented to them by those requiring tire recapping or repairs from the information furnished by these examiners. The Committee suggests that these examinations be governed by a mileage total instead of elapsed time.

## 6. THE SYNTHETIC PROGRAM

The present plans for the production of synthetic rubber as outlined to us by the governmental agencies concerned call for the erection of the following types of plants in the United States:

(a) For the production of neoprene, eventual capacity 40,000 tons per year (in addition to a 9,000-ton plant now in operation by a private company).

(b) For the production of butyl rubber to yield 132,000 tons per year.

(c) For an over-all production of 705,000 tons of buna-s. This production of buna-s involves construction in terms of plants for producing styrene and butadiene and for the copolymerization of butadiene and styrene with the formation of buna-s.

For the manufacture of butadiene the following processes are scheduled (all figures expressed in the long-ton equivalent of buna-s):

|                                                                                                                               |                  |
|-------------------------------------------------------------------------------------------------------------------------------|------------------|
| (1) From alcohol by the Carbide & Carbon Chemical process, rated capacity .....                                               | Tons<br>242, 000 |
| (2) From butane (in natural gas) by a process developed by the Phillips Petroleum Co .....                                    | 50, 000          |
| (3) From butane by the Houdry process .....                                                                                   | 16, 500          |
| (4) From butylene (obtained by the cracking of petroleum) by a process developed by Standard Oil of New Jersey .....          | 283, 000         |
| (5) By the cracking at high temperatures of gas and heavy oils (the so-called thermal or refinery conversion processes) ..... | 20, 000          |
| (6) By combination of (4) and (5) in 1 locality .....                                                                         | 93, 500          |

The Committee has examined the present status of the Government's schedules and estimates that if the construction program can be met on the dates specified there will be produced during 1943 400,000 tons of buna-s; 30,000 tons of neoprene (in part from private sources). We believe that these processes will ultimately work on a large scale and yield satisfactory products.

Furthermore, our experts estimate that the time required to get the various plants running smoothly under actual operating conditions will not be so lengthy as to cause serious delay. On the other hand it must be remembered that we are dealing here with a new industry and that in the production of buna-s three separate manufacturing operations are concerned, no one of which has been carried out as yet on anything approaching the present contemplated scale.

Therefore, until more experience has been gained by the operation of one of the large-scale units at each step, we must consider that a considerable element of risk is present in the picture. The importance of completing rapidly one full-scale plant using each process and the erection of pilot plants is considered in the technical section of this report.

The Committee wishes to emphasize once again at this point that the whole question of obtaining synthetic rubbers in adequate amounts in 1943 hinges on the rate of construction of the manufacturing plants. Unless the present situation involving the assigning of priorities and allocating of materials is improved, there is grave danger that there will be serious delays in the completion of the plants and consequent reduction in the amount of synthetic materials produced. Furthermore, unless the administrative changes recommended in a later section of this report are put into effect, conflicting governmental plans



with respect to the oil industry may seriously jeopardize the production of butadiene.

We have also examined with the aid of our experts many other processes for the production of butadiene and synthetic rubber. We find that quite apart from their merits or demerits, no one of them could now be substituted in the present program with hope of accelerating the production of buna-s in the critical year 1943.

We would be blind if we did not see the efforts now in progress on the part of many companies to have a part in the development of a large new industry with vast post-war possibilities. This has been accentuated in the minds of the petroleum producers by gasoline rationing with its attendant loss of sales. They are thus forced to turn to other products, including butadiene. Furthermore, we are not unaware that it is inevitable that once the war is over there will be a struggle amongst various groups for the control of this new industry. But all such considerations cannot affect this Committee as to its conclusions. We are concerned only with the production of the largest amount of rubber in the minimum amount of time in order to carry the country successfully through the war. It is our firm conclusion that present processes for manufacturing synthetic rubber and the raw materials required (butadiene and styrene) must not at this late date be changed unless new processes can be shown beyond peradventure to have such advantages over those now employed that more rubber would be obtained in the ensuing months than would otherwise be the case. We have found no such process in the course of our investigations.

The Committee finds that there has been considerable discussion between two groups within the oil industry as to whether or not there was a serious conflict between the butadiene program based on butylene and the high-octane aviation gasoline program. With the aid of our experts we have examined carefully into this problem and consulted many technologists in various oil companies as well as discussing the matter with the officials of the Office of Petroleum Coordinator. It is our conclusion that, while the possibility of a conflict between the two programs does exist, it need not become serious if the possibility is recognized and if the administration of these two closely related enterprises is properly integrated.

The necessity for the administrative changes along these lines which are recommended elsewhere in this report is further demonstrated by the uncertainty of the stated aviation requirements both in quantity and quality. The evidence clearly indicates that if the present demands for high-octane aviation gasoline and butadiene stay where they now are, there need be no conflict.

If and when the armed services should decide that such larger quantities of high-octane aviation gasoline are needed, there are ways by which this demand can be met by the industry without diminishing the flow of butylene to the butadiene plants.

It is fortunate that the program for the needed plants is generally in the hands of as competent engineers as there are in the country. Probably the most interesting and satisfying part of our study is the confidence we have acquired in the men from industry who have the plans in hand and who are satisfied they can lick the problem in the



given time. Their competence and experience, their resourcefulness and ingenuity are the best guaranties we have that they can do so. We have been much impressed with the fact that this stupendous undertaking is only possible because of the highly developed skill of our technologists. No one could have examined the facts before us without appreciating the magnitude and scope of the task; no one could have made this study without realizing that because of the short-sightedness and failure to act on technically sound advice we must now proceed with insufficient experience. On this basis we venture the statement that never on the basis of so little has so much been involved. Under these uncertainties the only recourse is to provide ample margins when in doubt.

#### THE PROBLEM OF 1943

The year 1943 is so critical for the rubber situation that the production of 100,000 tons more or less of buna-s might be a determining factor in the success of our military program. In view of the extremely precarious situation in 1943 the Committee recommends the prompt increase of 100,000 tons a year of butadiene over the present schedule, to be obtained by a refinery conversion program. This can be accomplished with a very small expenditure of critical materials. This recommendation is designed to accomplish three ends: (1) Fill the gap between butadiene production and polymerization capacity in the early part of 1943 (for the minimum polymerization capacity exceeds that for butadiene production and according to present schedule the two will not come together until the middle of 1943); (2) provide a reserve of stand-by capacity for the later years of the program; (3) furnish valuable insurance against contingencies affecting other plants in the program and provide additional facilities to meet possible increased demands of the armed services.

Due to the pressure from various sources there have been, even in very recent days, belated efforts to change from the present butadiene plants scheduled by the Government to the refinery conversion processes. The first thought that occurs to the committee is, "Why now? Why not months ago? Why the sudden activity? And, above all, why substitute at this late date?" We have recommended an increase, not a substitution, of a refinery conversion program. We have made this recommendation, in order to produce more rubber during the critical year 1943. We should like to emphasize again that it would be a major blunder to make a further change inside the program at this date by the substitution of one process for another.

To obtain the maximum utilization of the combined refinery conversion program, we recommend a prompt increase in the rate of construction of polymerization facilities and of the styrene plants to balance the program upward so that the maximum possible amount of buna-s might be produced in 1943. If this expectation and the optimistic estimates of the present schedule are realized, the buna-s produced in 1943 might be as much as 450,000 tons. Even this amount will not provide too large a margin of safety when it is recalled that our carry-over to 1944, assuming only a 400,000-ton buna-s production, does not exceed 100,000 tons.

## LOOKING AHEAD TO 1944

The present plans call for the building of polymerization plants with a rated annual output of 705,000 tons of buna-s. If the 100,000 short tons of butadiene (equivalent to 110,000 tons of buna-s) provided by the refinery conversion program are to be utilized when the program is complete, additional facilities for polymerization must be provided and likewise for the manufacture of styrene. While there is evidence that the butadiene plants may produce 15 to 20 percent above their rated capacity our experts have found no indication that a similar situation exists with respect to the polymerization plants.

The War Production Board has fixed the total annual output of buna-s at 705,000 tons. The Committee recommends that this figure be raised now by 140,000 tons, and that this be accomplished by authorizing (a) the construction of the additional polymerization facilities and styrene capacity, to be ready by January 1, 1944, which are required to balance upward the annual production of the refinery conversion program (110,000 tons of buna-s); and (b) the later construction of a 27,000-ton butadiene plant and a 30,000-ton polymerization plant to be located near the center of grain production. The Committee recommends that the Rubber Administrator, about 6 months hence in the light of the situation which exists regarding the best technical process then proven for the production of butadiene from grain, and in the light of the need for additional buna-s which may then be estimated, proceed with the erection of the 27,000-ton butadiene plant from grain and the associated polymerization plant. He should also make whatever arrangements are necessary to produce and ship the necessary styrene from the centers of styrene production. If the needs for synthetic rubber and the production program are in balance, making due allowances for civilian driving, he may then cancel the erection of this additional 30,000 tons of buna-s capacity.

The Secretary of Agriculture has assured the Committee that no concern need be felt that the expansion of the butadiene from grain program will interfere with our food supplies. After all food requirements that can be anticipated have been met there will be upward of 1,250,000,000 bushels of wheat left in this country.

This additional buna-s, which it will be thus possible to produce in 1944, should provide the margin required for relaxing the restrictions on civilian driving. As we have pointed out earlier in this report, if by the end of 1943 the synthetic-rubber manufacture is in satisfactory shape and the military needs for rubber have not increased, it should be possible to allocate considerable quantities of buna-s for civilian needs. We shall not need the 140,000 extra tons of buna-s until 1944, when it will be required for tires for passenger cars. Without at least half this amount in that year, a great many passenger cars would be forced off the road; for it is at that time that we shall have to begin to repay the rubber which we have been borrowing, so to speak, by running our cars without a tire-replacement and recapping program during the past 8 months.

By delaying the construction of the extra polymerization facilities for 6 months we shall in all probability prevent a serious conflict between this eventual expansion of the buna-s program and other aspects of the war program. There is every reason to believe that

the shortage of critical materials will be less acute 6 to 8 months from now, and this will certainly be true in regard to facilities for fabricating special chemical equipment.

Our recommendation for additional 27,000 tons of butadiene capacity to be located near the center of grain production is made with this time schedule in mind. This plant (together with the corresponding 30,000-ton buna-s plant) need not be started for another 6 months. There will be relatively little cost to the war effort involved in its construction for the reasons just given in regard to the easing of the situation in respect to the fabrication of equipment. Furthermore, another advantage will accrue. At that time—6 months hence—it will be possible to judge the relative merits of two processes for the manufacture of butadiene from grain which are not now in the Government program, namely, the Publicker process using alcohol and that employing butylene glycol developed by the Department of Agriculture in Peoria. This latter method involves a special fermentation of grain. These two processes should be carefully compared with the alcohol process developed by the Carbide & Carbon Co. and now a major part of the Government's plans. At present insufficient data are at hand for an evaluation. A few months from now this will no longer be the case.

It is clear to the Committee that new facilities for producing alcohol from grain must be provided. More alcohol may be required for the production of butadiene in plants under construction, if not, the extra capacity will be useful in the explosives program. The estimates we have obtained from the most reliable sources vary, but in all likelihood a considerable quantity of additional alcohol must be on hand in 1943 and 1944 to meet both the synthetic rubber and the explosives program. We recommend that these facilities be erected on a site near the grain producing States and located on water transportation. By the use of recently developed apparatus, alcohol plants can be constructed with little expenditure of critical materials.

If the Rubber Administrator should decide that the plants for the production of the additional 30,000 tons of buna-s which we recommend should be constructed during late 1943, they should be located near the center of grain production and such units should if possible be operated under the control of an independent local group. Diversification of the synthetic rubber industry both from the point of view of geography and control seems important to the Committee. Another element in the competition would be provided if this recommendation is carried out.

We may sum up our recommendations in respect to the buna-s program as follows:

- (1) There should be no further changes in the plans now laid for the construction of the scheduled plants—the time to freeze has passed in view of the urgency of 1943.

- (2) The authorization of an additional 140,000 tons of buna-s capacity per year.

- (3) Proceed immediately with a conversion of refinery plants to produce a total of 100,000 tons of butadiene by this process, this being in addition to the butadiene now planned from other processes in the present program.

(4) Promptly make an adjustment in the construction rates of the present styrene and polymerization plants, in order that the maximum amount of buna-s may be produced in 1943.

(5) Expand the polymerization and styrene facilities to be ready on January 1, 1944, to balance upwards the entire program.

(6) About 6 months hence, in the light of the situation which then exists regarding the best technical processes then proven for the production of butadiene from grain, and in the light of the need for additional buna-s rubber which may then be estimated, proceed as indicated with the erection of a plant to produce an additional 27,000 tons of butadiene from grain through alcohol or butylene glycol and with the erection of an associated additional polymerization plant to produce 30,000 tons of buna-s, both to be located near the center of grain production. Also make whatever arrangements are necessary to produce and ship the necessary styrene from the centers of styrene production.

(7) Proceed promptly with the erection of an alcohol plant to produce 100,000,000 gallons of alcohol per year, by the use of recently developed apparatus. This plant could be erected on a site near the grain-producing States and located on water transportation.

Finally, as a further margin of safety, considered only from the point of view of filling military needs, we recommend the construction of an additional plant for the production of neoprene to the extent of 20,000 tons a year capacity. We make this recommendation because neoprene is the one synthetic material of a quality to be the full equivalent of natural rubber for combat and heavy duty tires, either by itself or in combination with buna-s.

The relatively high cost of this substance in terms of critical materials required for the construction of the plant and electric power needs is offset by its special significance in the rubber program. As an insurance against the distant possibility that we may be cut off from all supplies of natural rubber, we feel that the expenditure involved to provide an additional margin of safety is not too great.

Four large rubber companies already have developed their own polymerization facilities, each one differing somewhat from the others. Each represents the best efforts of a separate group of keen technical men. Last May, Rubber Reserve decided to standardize all the new polymerization plants which were to be constructed; this means, in essence, also standardizing the operation.

The design that is now ready is a compromise of the ideas of four separate technical groups. It may or may not incorporate the best ideas of each; on this point grave doubts have been expressed to the Committee. At all events, no one has ever operated such a standardized plant. The need for the immediate construction of one such standard plant so that experience with its operation can be obtained at the earliest moment is evident. It is our recommendation, therefore, that one of the standard plants now on the schedule be rushed to completion as quickly as possible.

The recognition of the importance of technological competition leads us to make two recommendations in regard to the operation of the polymerization plants:



First, one or more corporations controlled by the smaller rubber companies and chemical companies interested in polymerization should operate a certain number of these standard plants.

Second, at the same time, to keep the competitive urge to improve the new art of polymerization, we recommend that as part of the program each of the four large rubber companies be allowed to expand their facilities according to their own design, if they so prefer. We feel sure that the pride of authorship, as strong among technical men as among artists, under these conditions will yield in a short time a rich harvest to the Nation. Adoption of this second recommendation would not retard the program, for the expansion should be provided in that portion of the program we have recommended which requires additional polymerization facilities to be ready about January 1, 1944, to balance the refinery conversion program.

The Nation as a whole is endeavoring to provide for the development of essentially novel manufacturing operations on a vast scale. How this program is managed and the spirit in which it is carried forward seem to us of great significance. Unlike the production of ammunition, the enterprise has implications for the post-war period. For a double reason, therefore, the Nation is concerned lest special groups play too large a part in the construction and operation. For the rapid development of the new art this Committee is fearful lest the influence of governmental policy serve to discourage the beneficial rivalries of the best brains in industry. We believe, therefore, that on the one hand, there should be complete interchange of information and, on the other, as much competition in research, development, and operation as possible. Such, after all, are the conditions applying in the field of laboratory science where during the last hundred years tremendous strides have been made. Competition and cooperation in this new national effort, we believe, should go hand in hand.

In concluding this section of the report which deals with the synthetic program, the Committee wishes to make special mention of the fact that there are a number of materials in the offing which give promise of considerable significance in the future development of rubber substitutes.

In particular, flexon, which is very similar to butyl rubber, is now undergoing careful tests to determine its utility in the manufacture of tires and as a recapping material. Flexon has an advantage over butyl rubber in that it can be made more quickly and the plant involved does not require any large amount of critical materials.

The production would be limited, however, by the amount of solid carbon dioxide (dry ice) that would be available. The process is a wasteful one from the point of view of isobutylene, a raw material which is also of great value to the aviation gasoline program. As the tests of flexon stand today, the Committee does not feel that it can recommend the inclusion of any large production in the present program. However, in the course of a relatively short time the art of manufacture may be improved and one of the chief present drawbacks, namely, the lack of uniformity in different samples, may be overcome. If later tests prove the usefulness of this substance, its production then could be undertaken in considerable quantities.

Another rubber substitute which we are not recommending in our program but which is nevertheless in an interesting state of develop-



ment is the material known as "noropol," prepared by a series of chemical reactions from soybean oil. The process of manufacture seems entirely feasible, but the tests have not yet gone far enough to demonstrate the worth of the material in the manufacture of tires or reeaps. It will undoubtedly have value as a substitute for rubber in certain mechanical goods.

Several other developments of a similar nature have been called to the Committee's attention, but all are as yet in the laboratory stage. The Committee hopes that experimentation will continue and facilities be provided so that these new substances which show real promise may be tested thoroughly and eventually find their proper place in the national economy. Necessity has required the country to stop tampering with the present synthetic rubber program in order to produce the maximum amount of usable material in the coming year. It would nevertheless be most unfortunate if this situation prevented the development of other materials or new methods of manufacture.

## 7. PRIORITIES

The Committee wishes to emphasize and reemphasize the absolute necessity of having the maximum amount of synthetic rubber produced in the year 1943. As we have said before, this turns largely on the rate of completion of the plants now scheduled. No one of these plants of any considerable capacity has been completed as yet. Many of them are not yet even started. We have found that although there is every reason to believe the construction schedule can be met so far as the time of fabrication and construction is concerned, there is grave doubt whether the plants will actually be erected as planned unless something is done at once to change the situation in regard to the flow of materials to the fabricators.

We therefore recommend that urgent attention be paid to this phase of the rubber problem. We already have pointed out the dangerous situation the country would face if even 4 months of delay in the program should occur. Indeed, it is clear that the whole problem of critical materials is intimately associated with the problem of producing sufficient synthetic rubber in 1943 to tide us through the crucial year, and the President has asked us to make a report on critical materials.

Much has been said of shortages in critical materials. There are two kinds of shortages: the first where there is not enough to go around for essential purposes; the second type of shortage is that where though sufficient exists, it is short in the sense of not being available when and where it is urgently needed. There are a few materials short in the first sense, but many have been short in the sense of failing to be where needed when needed.

This has been due to permitting materials to be used for purposes not essential to the conduct of the war; to the lack of a vigorous policy of conservation, inventory control, and the finding of substitutes; and most of all, to the changing, complicated, and ineffective efforts at material distribution and priority control.

Shortages have been accentuated by superimposing upon the heavy military demands and delayed conversion of civilian industry to war purposes, a vast war construction program approximating \$17,000,000,000. This program will be nearing completion by the end of this

year and will thus release large amounts of construction materials. It is estimated that 70 to 80 percent will be finished about January 1, 1943, and all about July 1, 1943.

After this, provided vigorous measures are taken to increase supplies, find substitutes, press research work, complete the process of conversion, effect the utmost in conservation, inventory control, standardization and simplification, and above all to perfect a simple, sound, and workable system of priorities for the distribution of materials, unless demands are greatly increased, shortages should be much reduced and the bottlenecks in critical materials become fewer.

There has been often an attitude of complacency and a failure to take the vigorous measures necessary to increase supplies, working closely with the industries concerned. There has been some disposition to accept the "impossible" instead of trying to overcome it.

The military men must decide what things come first in war production, but it is the duty of this Committee to point out that unless the flow of materials for the construction of these synthetic rubber plants is insured there will be no rubber in the fourth quarter of 1943 with which to equip a modern mechanized army.

#### 8. ADMINISTRATION

The Committee finds that a number of different Government agencies have had overlapping jurisdiction in regard to the synthetic rubber program. This has caused delay and confusion. In particular the conflict between Rubber Reserve and Office of Petroleum Coordinator has complicated in recent months the bringing in of new facilities for the production of butadiene from oil. The Committee has been unable to determine, in spite of many inquiries, as to where the responsibility has lain for many of the decisions which have been made in the last 8 months.

The failure of the Government to provide a clearly recognized group of independent experts who would make technical decisions has added greatly to the public confusion and uncertainty. The reliance on one part-time technical adviser, aided by committees drawn from industry has, in the opinion of the Committee, been insufficient for the development of an entirely new industry involving an investment exceeding \$600,000,000. The technical adviser has testified that on more than one occasion he requested the appointment of an adequate technical staff.

It would have been wise administration for the officials in charge of policy to have delegated to a competent technical staff the function of collecting information about the various processes. Such a staff should have been relied upon for supplying through regular channels the data on which all important decisions were made. Instead of such orderly methods of procedure we have found many evidences of a chaotic situation in which nontechnical men have made decisions without consultation with subordinates nominally in positions of responsibility.

There have been many adjustments and readjustments—a "stop and go" policy—in the synthetic rubber program. Some of these were inevitable; some appear to be the result of bad administration.

There is clear evidence that the situation with respect to the alcohol supply was altered between the fall of 1941 and the spring of 1942.

What had once been a deficiency became an apparent surplus. As a result of this change the proportion of alcohol- and petroleum-based processes in the synthetic rubber program was altered. A more adequately staffed organization might have foreseen earlier the changed situation and altered the program a few months earlier.

As another example of faulty administration we may mention the failure to obtain early in this year the detailed information concerning the Russian process for making synthetic rubber. Russia has been manufacturing synthetic rubber successfully for more than 10 years. It would seem natural to have endeavored to benefit from this experience as soon as rubber became of major concern to the United States. If the Russian offer made in February to exchange men and information had been accepted and Russian engineers with blueprints of manufacturing had been rushed to this country last winter, it is conceivable that plants for producing synthetic rubber by the Russian process might well be now on the way to completion. To date we have no detailed information as to the process and no samples of Russian tires have as yet been obtained. Every effort ought to be made to obtain this information.

The dissemination of full information concerning the compounding of buna-s to all companies has become an accomplished fact only in the last few days. An agreement was entered into on July 3 of this year between the Rubber Reserve Company and the four large rubber companies. According to this agreement, Rubber Reserve alone was permitted to give out information to the other rubber companies. But in fact it did not do so for some six weeks in spite of repeated efforts of the Rubber Branch of the War Production Board to have the information released. In view of this situation one hardly needs to point out that there has been very imperfect cooperation between the Rubber Reserve Company and the Rubber Branch of the War Production Board.

Because of the record briefly summarized above, we recommend:

A complete reorganization and consolidation of the governmental agencies concerned with the rubber program.

The War Production Board must assume full responsibility for the rubber program in all of its phases. We therefore recommend a directive from the President ordering the Rubber Reserve Company and all other Government agencies to act in all matters relative to the rubber program as directed by the Chairman of the War Production Board.

To discharge adequately the responsibilities which we recommend that the Chairman of the War Production Board explicitly assume for the entire rubber program, full authority must be centered in a single official. We therefore recommend that the Chairman of the War Production Board appoint a Rubber Administrator and delegate to him full and complete authority in regard to the manufacture of synthetic rubber, including research, development, construction, and operation of plants. This single official, who must be a man of unusual capacity and power, must also have full charge of all matters connected with rubber within the War Production Board. It should be his duty to formulate policies and administer the operation of the rubber program subject only to the Chairman of the War Production Board, who should divest himself of all direct concern with these matters. Good administration dictates that the Rubber Administrator use the



available facilities of other Government agencies in the execution of the program, but his decisions and not theirs must control.

We recommend that particular care be directed to the establishment of a Technical Division, under the immediate control of the Rubber Administrator. We also recommend that the Construction Division of Rubber Reserve be designated by the Rubber Administrator as the agency to supervise the construction of all plants under the rubber program.

It will be a matter of great importance to have the Technical Division adequately staffed and provided with branches in charge of all the various phases of research and development, except for the production of butadiene from petroleum, which is referred to in the next recommendation.

The Rubber Administrator, acting on authority delegated by the Chairman of the War Production Board, should have the sole responsibility for supervision of operation of all plants engaged in the production of rubber. In the execution of that responsibility he may utilize other agencies of the Government upon their agreement thereto, but shall not be required to do so, and he shall cancel such arrangements when satisfactory results are not obtained.

Funds must be made available at once to the War Production Board to provide for the staff under the Rubber Administrator and to enable him to place such contracts as he may deem necessary in connection with research and development.

We further recommend that the Petroleum Coordinator be directed by Presidential order to act on specific directives from the Chairman of the War Production Board, acting through the Rubber Administrator, to explore all methods for the production of butadiene from petroleum and natural gas products and recommend new proposals to the Rubber Administrator for his consideration and action.

The construction of all plants and equipment concerned with the production and purification of butadiene from petroleum should be under the authority of the Rubber Administrator, who we recommend shall designate the Construction Division of Rubber Reserve to carry out this function.

This provision is necessary in order to unify control of the construction program and make certain that no delays ensue by reason of conflicting authority and personalities. The Petroleum Coordinator should have supervision of the operation of the plants for the manufacture of butadiene from petroleum and natural-gas products after completion of construction, but he should be directed not to modify the presently authorized construction program or the plans for operation except as approved by the Rubber Administrator.

We further recommend that in the Office of Petroleum Coordinator there be created a new Technical Division responsible for research and development in connection with all problems of the manufacture of butadiene from petroleum; funds for this purpose should be provided to Office of Petroleum Coordinator.

This specific delegation of responsibility to the Petroleum Coordinator is made in order to secure complete coordination of the butadiene program with other petroleum and natural-gas requirements, especially for aviation gasoline and for toluene for explosives.

As the situation develops it may be desirable for the funds required for the entire rubber program to be put directly at the disposal of the

Chairman of the War Production Board for the purposes of the Rubber Administrator instead of, as at present, indirectly through the Reconstruction Finance Corporation.

The most important part of the plan is obviously the choice of the right man for the position of Rubber Administrator. He should be a thoroughly competent operating and manufacturing executive, preferably with experience in the rubber industry. The demand for speed and the vital need for this man to start with experience and knowledge of the problem make it important that the man chosen be of proven integrity and enjoy the public's confidence and that of the rubber industry as well. We cannot stress too much the importance of choosing the right man for this work, for no plan of organization can bolster up a weak man sufficiently to meet the difficult problems he must face.

One of the problems presented to this Committee has been the difficulty of determining the future needs of the war program for rubber and the components required for the manufacture of synthetic rubber and substitutes. This difficulty arises from the unpredictable character of the war operations as to location, kind of war, and equipment employed under various conditions. In spite of these and other such difficulties, there is need for determining the requirements on an authoritative basis. Every aspect of the rubber problem must be under continuous review by a man whose sole responsibility it is. The most we can do is to appraise the present situation and indicate a sound course for the future.

A program can be no better than its administration; therefore we place special emphasis upon these series of recommendations and wish to state that unless they are followed there can be no assurance of the successful development of the synthetic-rubber program within the time required.

#### 9. AGRICULTURAL PROGRAM

Various plants which can be grown in the United States have been suggested as sources of rubber. Thomas Edison's experiments with goldenrod are an example. Kok-saghiz, a Russian dandelion, is considered promising in the Union of Soviet Socialist Republics as an auxiliary source of rubber, and seeds have been sent to the United States for test planting. However, the two agricultural possibilities which show most promise for the United States are guayule and cryptostegia.

Guayule is a shrub which grows freely in Mexico and the American Southwest. It contains a high percentage of rubber which is extracted from the entire plant. Best yields are obtained after 4 years' growth, but the shrub can be harvested any time after 2 years.

The Department of Agriculture has undertaken a large program of guayule cultivation in California, based on an initial independent planting of 500 acres in 1930. With seeds on hand and the expected harvest this month, there will be 66 tons of seed available for further planting. The seeds must be planted in a nursery and after 1 year transplanted to the field. The plans call for planting an acreage increasing to about 180,000 acres by the end of 1944. If this program is carried through, it is anticipated by the Department that there will be crude rubber available from this domestic guayule rising from 600



short tons in 1942 to about 33,000 in the fall of 1944, about 47,000 tons in the fall of 1945, and increasing thereafter.

The Committee believes that these estimates are over-optimistic but that the project is inherently sound and should be supported. The Committee therefore recommends that this program be given every possible support as the principal source of crude rubber which could not be lost to us short of conquest of American territory. In order to proceed with this program, however, certain things must be given immediate attention since the program will be delayed 1 year unless the following actions are taken before about October 1.

(1) Authorization must be secured to plant additional acreage. There is a question as to whether or not existing legislation would prevent the planting of more than 75,000 acres of guayule. This restriction, if it exists, must be removed very promptly if the program is to go forward on a really significant scale.

(2) The second item is the procurement from the War Production Board of adequate priorities to secure the amount of farm equipment which would be required to prepare the land and plant the seeds. This, again, must be done very promptly to meet the fall planting season.

There are additional requirements for the success of the program which are sought by the Department of Agriculture and to which the Committee gives its support.

*Cryptostega* is second in importance among rubber-producing plants capable of substantial scale production in the United States. This vine will grow wild in Florida and other Southern States. It contains only 2 or 3 percent of rubber, but this is of high grade and can be secured from the leaves harvested each year from the perennial vines. A plan to plant these vines extensively this year has met with relatively small success, owing to a delay in securing authorization for the gathering and purchase of *cryptostega* seeds from wild growing vines in Mexico. This authorization was another instance of "too late," and was secured just after the seeds had scattered. There is little to be lost and much might be gained by pursuing this program vigorously when the next opportunity arises next year.

## 10. RUBBER GOODS MANUFACTURING CAPACITY

A very important consideration in connection with the synthetic rubber program has to do with the capacity of the country to manufacture rubber goods out of the natural and synthetic rubbers which will be available. It would be obviously foolish to carry through a program of plant construction for the manufacture of synthetic rubbers only to discover too late that the factories for the manufacture of tires, electrical insulation, footwear, and other rubber goods have insufficient manufacturing capacity to handle the material. The Committee has made a survey of these facilities and finds that, as matters now stand, there may indeed be a deficiency of factory capacity to handle the synthetic rubber when it comes into full production.

The Committee's findings and recommendations in the matter of manufacturing plant capacity are given below under three headings: Rubber goods manufacturing capacity, recapping capacity, and reclaim rubber capacity.

(a) *Rubber goods manufacturing capacity.*—The significance of this problem is indicated by the following facts:

(1) The largest previous year's use of rubber goods in the United States was 775,000 tons of crude rubber in 1941.

(2) The largest monthly production in the history of the rubber manufacturing industry used at the rate of about 1,000,000 tons per year of crude rubber—a rate which could not be continuously maintained.

(3) The present governmental program calls for the procurement of about 68,000 tons of crude rubber and approximately 910,000 tons of synthetic rubber substitutes in 1944. The recommendations of this Committee would raise the total of these synthetic materials to about 1,100,000 tons.

(4) The processing art as developed at present requires more time, on the average, to fabricate than for the same tonnage of natural rubber. The Committee estimates that, on this account, the manufacturing capacity today for synthetic rubber is between two-thirds and three-fourths of what it would be for handling natural rubber.

These facts would indicate that the capacity of the country would have to be increased substantially to handle the quantities of synthetic rubber which will be produced in 1944. However, the following compensating factor must be taken into account:

(5) During recent months technical developments in the processing arts have proceeded very rapidly and the time required for the manufacture of synthetic goods is being reduced. For example, during the short existence of this Committee, means have been found for doubling the speed with which milling and mixing operations can be performed with butyl rubber. Similar advances are being made in handling the other synthetic rubbers. There is reasonable expectation, therefore, that the intensive technical research program, now being carried on by the rubber companies, will substantially increase the speed with which synthetic rubber goods can be manufactured and therefore increase the manufacturing capacity of the factories.

For this reason the Committee recommends that the Rubber Administrator institute a survey of milling, mixing and tire building facilities, on about March 1, 1943. This survey should determine the extent to which these facilities must be expanded in view of the processing and tire building art at that time so as to handle the expected volume of synthetic rubber in 1944, after allowing for export of rubber stocks.

The Committee is informed by the rubber manufacturers that a decision on this matter made by April of 1943 would permit the manufacturing companies to add whatever additional manufacturing facilities might be required, in adequate time to meet the manufacturing schedules of 1944—provided the necessary priorities are given for the procurement of the necessary equipment.

(b) *Recapping facilities.*—The total recapping capacity of the United States, exclusive of the tire-building facilities of the tire manufacturers, is approximately 16,000,000 tire recaps per year. This might be increased to 19,000,000 by operating at full capacity with extra shifts. The program recommended by the Committee for tire replacement and conservation may call for as many as 25,000,000 recaps per year. To meet this deficiency the Committee recommends

utilization of tire molds of the tire recapping plants so as to meet any excess demand for tire recapping.

(c) *Reclaim rubber capacity.*—The program of recapping for the conservation of civilian passenger tires contemplates principally the use of reclaimed rubber. Other essential uses of rubber goods also call for reclaimed rubber. The armed services have gone far in substituting reclaimed rubber for natural rubber wherever circumstances permit, as a measure for the conservation of crude rubber. All of these demands for reclaimed rubber will somewhat exceed the capacity of the present rubber reclaiming plants of the country and indicate the necessity for providing some increase in this capacity.

The Committee is convinced that the quickest and most economical manner of securing increased rubber reclaiming capacity is by working through the existing experienced reclaiming companies rather than by erecting new and independent reclaiming facilities to be operated by a relatively inexperienced group.

The Committee therefore recommends that the reclaim rubber manufacturers, through their National Rubber Reclaimers Association, be requested to submit to the Rubber Administrator a program for increasing by about 20 percent of the present rubber reclaiming facilities of the United States, and that authorization be then given to carry through such measures as may be necessary in the form of priorities, financial aid, or contracts to secure this increase in rubber reclaiming capacity during 1943.

Several methods have recently been reported for increasing the useful qualities of reclaimed rubber. At least one of these is reported to involve only the use of chemicals which are not difficult to obtain in the present war economy. The Committee recommends that every encouragement be given to the further development and application of these new processes. Such encouragement could take the form of priorities for procurement of the necessary experimental materials and also financial aid, if necessary.

## 11. SCRAP COLLECTION

No one can estimate with certainty the amount of scrap rubber in the United States. A reported 450,000 tons of scrap rubber were collected in the drive inaugurated by the President last June. This gross tonnage should yield about 350,000 tons of reclaimed rubber, but there is reason to believe that the actual amount of scrap collected is considerably below the above figure because of duplicated reporting of collections.

There have been sensational claims regarding the amount of scrap rubber still uncollected in the country. The Committee has investigated some of these claims and has found them utterly without foundation in fact.

It is nevertheless true that the rubber now in the scrap piles of the country, together with anticipated current receipts, are sufficient to feed the rubber reclaiming plants at full capacity for about 18 months. During this time further scrap collections will continue through the normal operations of scrap collectors and junk dealers. In addition to this supply the armed services have instituted, as part of their program of rubber conservation, an inspection system which will insure that damaged tires from military vehicles will be repaired



if possible, and if not capable of repair will be assembled through scrap-collecting agencies and thus fed into the Nation's scrap stock pile.

Still another supply of scrap rubber will come automatically if new tires are rationed to civilian drivers in accordance with the recommendations of this report, since a condition for the procurement of a new tire will be the turning in of the worn-out tire for scrap.

With these supplies of scrap rubber in sight there will be adequate time for the careful preparation of another national scrap rubber drive well in advance of serious depletion of the existing stocks. The Committee recommends that this drive be carefully prepared in advance to secure its maximum effectiveness, and to this end suggests that the Rubber Administrator take the initiative in selecting and directing the proper agencies for the organization and conduct of this drive. The Committee further believes that these steps can most advantageously be undertaken about a year hence.

Elsewhere in this report the Committee makes a number of recommendations in regard to the increased production and more efficient use of the reclaimed rubber produced from this scrap.

## 12. TECHNICAL SUGGESTIONS FOR THE RUBBER ADMINISTRATOR

As a result of the study made by our experts the Committee has been in a position to evaluate a number of technical points in connection with the rubber program. Therefore we have a number of recommendations to make of a minor nature which we should like to pass on to the man who, we hope, will be in charge of the rubber program as Rubber Administrator. We shall assume that he will immediately place a highly competent man on a full-time basis in charge of his technical division, and it is to that man in particular that these suggestions are directed.

1. We recommend the immediate installation of one or more small commercial pilot plants using the catalyst system developed by Standard Oil of New Jersey operating on butylene feed stock. These should be completed with fractionating towers and refining systems to the end that they may serve as training plants for the study of any difficulties that may be experienced in bringing the large units into operation at rated capacity, and for trying out suggested means for improving the over-all operations.

2. We recommend that one of the large-scale plants operating on this same process should be given as high priority rating as possible to insure that it is completed by March 1943 so that experience may be gained on the full-scale operation of this plant. Although our experts have no doubt that the engineering data provided by the small-scale experiments are adequate for the design of the large plants, it is clearly a difficult and somewhat uncertain matter to make the transition to the full large-scale plant which must be operated.

3. We believe that the purification of butadiene deserves further investigation both in the laboratory and in the pilot plants.

4. The Committee has explored new and novel substitutes for conventional rubber tires, largely through access to a very full survey of such devices conducted by a special committee of the Society of Automotive Engineers at the suggestion of the National Inventors' Council.

Among these devices one stood out as possessing promise of giving relief to the less essential drivers in urban areas during the next few critical years. It is the "sandal," developed by one of the large rubber companies, and consisting of a section of carpet impregnated with asphalt and easily fitted over an ordinary tire which has been too far worn to be used further with safety. On asphalt or concrete street, and at very moderate speeds, these sandals have a life of between 1,000 and 2,000 miles. Using no critical materials and easily manufactured, they may provide temporary relief to drivers who may otherwise be unable to continue driving their cars. The Committee considers this to be an interesting possibility in emergency and recommends that it be further studied.

5. The Committee recommends that the policy of encouraging inventors and research groups working on the development of rubber or rubber substitutes should be adopted. This encouragement might take the form of granting priorities for critical materials, where the amounts required are not excessive, for experimental and pilot-plant development.

6. Recognizing the necessity for providing a real incentive to conserve crude rubber by finding ways of substituting synthetic, we favor the plan that was suggested by the Synthetic Rubber Section of the Chemical Branch of the War Production Board. This provided for a greater than proportionate increase in a manufacturer's synthetic rubber allocation if he could increase the percentage of synthetic rubber in his product.

Inadequate supplies of synthetics have forced postponement of this plan for the time being, but we suggest that it be reinstated in the program when large-scale production of synthetic rubber is attained. A further incentive for increasing the use of synthetics may be provided, within the limits of product specifications, by raising the price of crude relative to synthetic rubber.

7. Polyvinyl resins are now being used as rubber substitutes at a rate which corresponds to a saving of approximately 22,000 tons of crude rubber per year. Other substitutes are under consideration, but there is no well-defined clearinghouse in any Government agency at the present time for promising materials. Suggestions come in to the Rubber Reserve Company, War Production Board, the Office of Price Administration and various other Government organizations, but center at no definite point, with the result that there is duplication of effort and delay in evaluating such new materials. This should be centered under an official reporting to the Rubber Administrator.

8. There appears to be considerable confusion in regard to the military involving rubber substitutes. Several branches of the Navy and the Army each have been searching for rubber substitutes and are in competition with each other to obtain scarce materials. The Rubber Administrator should furnish the proper liaison for the armed services and should center research along these lines under his own control.

9. The Committee suggests the institution of a prompt survey to determine the number of chemical engineers and other technically trained men who will be required to operate the synthetic rubber plants now under construction. And if this survey indicates a serious shortage of such technical talent, that the Manpower Com-



mission be called upon for assistance in devising a policy for meeting the situation.

10. Inspections of a large number of crude and scrap rubber stock piles and examination of the methods being used for their protection have convinced the Committee that this situation is generally satisfactory. A number of spots were found, however, where protection is definitely inadequate. While commending the inspection program now set up by Rubber Reserve Company, the Committee suggests the advisability of more adequate protection through additional armed guards wherever a hazardous situation is found to exist. These stock piles constitute some of the most critical possessions of the Nation.

14. The Committee also suggests the introduction into the manufacture of "camelback" for the retreading of civilian tires, the practice of adding up to 20 percent of "springs" (finely ground tire threads) into all reclaimed rubber tread stocks. This practice will improve the wearing qualities of the reclaimed rubber required for their production. This will be equivalent in its results to a further increase of between 10 and 20 percent in the capacity of the reclaim rubber plants.







# S. 2775

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## IN THE SENATE OF THE UNITED STATES

SEPTEMBER 14, 1942

Mr. DOWNEY introduced the following bill; which was read twice and referred to the Committee on Military Affairs

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## A BILL

To amend the Act of March 5, 1942, relating to the planting of guayule and other rubber-bearing plants.

1       *Be it enacted by the Senate and House of Representa-*  
2       *tives of the United States of America in Congress assembled,*  
3       That paragraph (2) of the first section of the Act entitled  
4       “An Act to provide for the planting of guayule and other  
5       rubber-bearing plants and to make available a source of  
6       crude rubber for emergency and defense uses”, approved  
7       March 5, 1942, is amended by striking out “not in excess  
8       of seventy-five thousand acres of”.

9       SEC. 2. Paragraph (8) of the first section of such Act  
10      is hereby amended by striking out “an area of seventy-five  
11      thousand acres of”.

77<sup>TH</sup> CONGRESS  
2<sup>D</sup> SESSION

**S. 2775**

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## **A BILL**

To amend the Act of March 5, 1942, relating to the planting of guayule and other rubber-bearing plants.

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By Mr. DOWNEY

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SEPTEMBER 14, 1942

Read twice and referred to the Committee on Military Affairs







## IN THE HOUSE OF REPRESENTATIVES

SEPTEMBER 15, 1942

Mr. ANDERSON of California introduced the following bill; which was referred to the Committee on Agriculture

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## A BILL

To amend the Act of March 5, 1942, relating to the planting of guayule and other rubber-bearing plants.

1       *Be it enacted by the Senate and House of Representa-*  
2       *tives of the United States of America in Congress assembled,*  
3       That paragraph (2) of the first section of the Act entitled  
4       “An Act to provide for the planting of guayule and other  
5       rubber-bearing plants and to make available a source of  
6       crude rubber for emergency and defense uses”, approved  
7       March 5, 1942, is amended by striking out “not in excess  
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9       SEC. 2. Paragraph (8) of the first section of such Act  
10       is hereby amended by striking out “an area of seventy-five  
11       thousand acres of”.

77<sup>TH</sup> CONGRESS  
2<sup>D</sup> Session

H. R. 7549

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## A BILL

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To amend the Act of March 5, 1942, relating to the planting of guayule and other rubber-bearing plants.

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By Mr. ANDERSON of California

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SEPTEMBER 15, 1942

Referred to the Committee on Agriculture







# GUAYULE RUBBER

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## HEARING

BEFORE THE

COMMITTEE ON MILITARY AFFAIRS

UNITED STATES SENATE

SEVENTY-SEVENTH CONGRESS

SECOND SESSION

ON

### S. 2775

A BILL TO AMEND THE ACT OF MARCH 5, 1942,  
RELATING TO THE PLANTING OF GUAYULE  
AND OTHER RUBBER-BEARING PLANTS

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SEPTEMBER 16, 1942

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Printed for the use of the Committee on Military Affairs



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## GUAYULE RUBBER

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WEDNESDAY, SEPTEMBER 16, 1942

UNITED STATES SENATE,  
COMMITTEE ON MILITARY AFFAIRS,  
Washington, D. C.

The committee met at 10:30 a. m., pursuant to call, in the Military Affairs Committee room, United States Capitol.

Present: Senators Robert R. Reynolds (chairman), Thomas, of Utah, Johnson, Lee, Schwartz, Hill, Downey, Truman, Wallgren, Kilgore, Gurney, and Holman.

Also present: C. M. Granger, assistant chief, Forest Service, Department of Agriculture, and Dwight J. Pinion, of the office of the legislative counsel.

The CHAIRMAN. The meeting will come to order.

We will, at this time, take up S. 2775, which is a bill to amend the act of March 5, 1942, relating to the planting of guayule and other rubber-bearing plants.

(S. 2775 is as follows:)

[S. 2775, 77th Cong., 2d sess.]

A BILL To amend the Act of March 5, 1942, relating to the planting of guayule and other rubber-bearing plants

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That paragraph (2) of the first section of the Act entitled "An Act to provide for the planting of guayule and other rubber-bearing plants and to make available a source of crude rubber for emergency and defense uses," approved March 5, 1942, is amended by striking out "not in excess of seventy-five thousand acres of."

SEC. 2. Paragraph (8) of the first section of such Act is hereby amended by striking out "an area of seventy-five thousand acres of."

Senator DOWNEY. Gentlemen and Mr. Chairman, this is Mr. Granger.

If you will come over here, Mr. Granger.

Mr. Granger represents Mr. Wickard, Secretary of Agriculture. He is in the Forest Service of the Department of Agriculture and is the gentleman who has been in charge of the planting of guayule at Salinas, Calif.

Mr. Pinion is with the office of the legislative counsel of the Senate and is over here to help Mr. Granger formulate certain changes that the Department wants in the bill, if we were going to make some changes in it.

Has the proposition been stated to the committee?

The CHAIRMAN. I stated that I understood the Baruch committee had recommended this, and we have some lands under cultivation for this product, and I also stated that it was my understanding that the

President favored the matter. So, if you will be good enough to state for the record just exactly what the situation is now and what your bill proposes, we will be very grateful to you.

Senator DOWNEY. All right.

First, let me say that about a month ago I was in California and I spent a few hours at Salinas, Calif., where the guayule project is located. We drove over and around the seedbeds and the acreage that has been planted. I wish all of the committee could see the work that has been done. I think we would all be proud of it. I think our Forest Service has done a very grand job there.

The CHAIRMAN. How many acres have you there under cultivation?

Senator DOWNEY. I will have Mr. Granger go over that in a minute, Mr. Chairman, if I may.

The CHAIRMAN. Yes.

Senator DOWNEY. We have one rather startling thing—and Senator Holman, as a businessman, this will appeal to you—instead of our yield of seeds running under what we had expected, they were eight-fold. In other words, eight times as much as we had expected. It is very seldom that that happens. It generally happens the other way. I think that is one reason Mr. Granger is here to discuss it, because there has to be an expansion beyond what we had anticipated, because of this high yield of seeds.

In this bill, as it originally went through, at the request of the Department of Agriculture itself, and many of the committee members did not quite agree with Agriculture, we limited the planting to 75,000 acres. Now the Department of Agriculture and the Baruch committee believe that that limit should be lifted and it should be left to the discretion of the Department of Agriculture to determine how many acres should be planted and, as Mr. Granger himself points out, of course, the limitation will then rest in the Congress and the amount of appropriation that we may make for the work.

Incidentally, the big limitation, of course, is going to be in the lack of strategic materials.

The CHAIRMAN. What does your bill call for?

Senator DOWNEY. The amendment to the original act that I have introduced calls for the lifting-out of the law the limitation of 75,000 acres that is now there, and it is left to the discretion of the Department of Agriculture to determine how many acres should be planted.

Senator HOLMAN. May I inquire, do you just want to lift the maximum? Do you not want to place a minimum in your bill—not less than 75,000 acres?

Senator DOWNEY. No. The amount of acreage that should be planted would be left entirely to the discretion of the Department of Agriculture.

Senator HOLMAN. It may even be less than 75,000 acres?

Senator DOWNEY. It could be, but I might say there is no chance of that, Senator Holman.

Senator SCHWARTZ. Senator, under the new and involved set-up with reference to rubber, isn't somebody in the Department of Agriculture going to put his finger down and say, "Now, don't plant any more than that" if we don't have a minimum in the bill?

Senator DOWNEY. I don't think there is a very complicated problem as to what amount should be planted. As Mr. Granger will tell



you, we can't hope to get substantial results from guayule for 2 or 3 years. In order to plant hundreds of thousands of acres of guayule it will, of course, require tractors and trucks and irrigation. Perhaps that is going to be the limitation.

Incidentally, I don't think the Baruch report covered it all, at least the way it was issued, as to the amount of guayule rubber or crude rubber that would be needed to mix with synthetic rubber, but I called the War Production Board this morning and it was stated to me that it was still contemplated that we would need one-third crude rubber or guayule rubber to go with our synthetic rubber, and I think the reason that the Baruch report recommended that we go ahead with guayule was recognition of the fact that synthetic rubber by itself will not be sufficient and we are going to require hundreds of thousands of tons of crude rubber or guayule rubber.

The CHAIRMAN. With reference to Senator Schwartz' question, is there any maximum placed in this bill, a maximum number of acres?

Senator DOWNEY. No. The way the amendment is, it would leave the acreage entirely in the discretion of the governmental agencies, the Department of Agriculture.

The CHAIRMAN. And they in turn will, I assume, cooperate with the rubber czar who has been named?

Senator DOWNEY. Undoubtedly.

The CHAIRMAN. But there is no limitation on it?

Senator DOWNEY. No.

Senator WALLGREN. How many acres have been planted up to now?

Senator DOWNEY. I would like to have Mr. Granger make a statement to the committee as to just what has been done out at Salinas.

The CHAIRMAN. You might, in answer to his question, make the same statement you made a moment ago when he was out, to the effect that you had eight times more seed than you had anticipated.

Senator DOWNEY. Yes.

Senator WALLGREN. Where did you acquire the seeds?

Senator DOWNEY. From the plants that were being grown when you saw them there, Senator Wallgren. The amount of seed yielded was eight times more than was prophesied to us when we were there with the party at Salinas.

Senator WALLGREN. One more question: What is the anticipated production figured on the basis of the percentage of our national needs that we will be able to get out of this guayule crop that is being planted now through the Department of Agriculture in California? Have you any kind of figure at all?

Senator DOWNEY. Mr. Granger can give you all those figures, Senator Wallgren.

Senator WALLGREN. The reason I ask, Mr. Chairman, I have been around the country a little bit; have been down to Baton Rouge—

The CHAIRMAN. You have visited that project?

Senator WALLGREN. Yes, and have been over at this guayule rubber plant at Salinas, and in the largest synthetic rubber plant that we have, in Louisiana, covering blocks in area, and I doubt that they will be able to produce more than 8 percent of our national needs, in the largest plant we have. Those were the figures given to us at the time we visited there. I would just like to know what this will amount to, because, apparently, these are the two sources of rubber.

Senator DOWNEY. Well, of course, Senator Wallgren, as you, yourself developed when you were there, and as I had forecast, guayule cannot yield large amounts of rubber for 3 or 4 or 5 or 6 years. It is merely a safeguard against the future. However, it has this great advantage, that it can be mixed on the basis of one, two, three, four, or five in the synthetic rubber.

Senator WALLGREN. As the crop is harvested you take the whole plant, you take the roots and everything?

Senator DOWNEY. Yes.

Senator WALLGREN. The whole thing is taken up?

Senator DOWNEY. That is right.

Senator WALLGREN. It isn't like trimming a bush. You just pull the whole thing out of the ground.

Senator HOLMAN. And there is the problem of exhausting the soil, too. I think we would all benefit if the witness would enlighten us.

The CHAIRMAN. All right, Senator, if you will conduct the examination.

Senator DOWNEY. I would suggest that Mr. Granger tell us briefly what has been accomplished at Salinas to date, and what plans the Department is making for the future.

#### **STATEMENT OF C. M. GRANGER, ASSISTANT CHIEF, FOREST SERVICE, DEPARTMENT OF AGRICULTURE**

Mr. GRANGER. My name is C. M. Granger, Assistant Chief, Forest Service, Department of Agriculture. If you have to leave, Senator Wallgren, shall I answer your last question now?

Senator WALLGREN. Yes.

Mr. GRANGER. On the percentage which guayule rubber will be of the total rubber needs, the only figure that I know of now that might be used is the figure for synthetic rubber which the Baruch committee recommended, which I believe was something over 1,000,000 tons.

Now, at the end of 1944 we will begin the harvest of guayule rubber from this proposed expanded program, which we hope will yield us something around 33,000 tons of guayule rubber in 1944 and 1945. It will take some months to manufacture the rubber.

Senator WALLGREN. When were those plants set out?

Mr. GRANGER. Those plants are not yet set out but under this extended program they will be set out in time so that we will begin harvesting the product in the fall of 1944, and that is expected to yield around 33,000 tons of guayule rubber, in the harvest which will run through part of 1945.

Senator WALLGREN. How many acres would that require?

Mr. GRANGER. That will require about 88,000 acres.

Senator WALLGREN. Now, the point I am getting at is this: You plant a crop on 88,000 acres. When that is harvested it is gone, isn't it?

Mr. GRANGER. That is right. Just like a crop of wheat.

Senator WALLGREN. Now, in order to have a real production of guayule rubber, it looks to me like you would have to have a vast amount of acreage so that you could harvest another crop the next year and keep on rotating.

Mr. GRANGER. That is correct, and it is probable that the project will be given permanent status, perhaps on this scale, perhaps on a larger scale, but if it is given permanent status only on the scale on which we now propose to embark, we would be producing about 80,000 tons of rubber a year.

Senator SCHWARTZ. On the scale on which you propose to embark, how many acres would that cover, to get the 80,000 tons a year?

Mr. GRANGER. If we merely take the seed which we now have and plant that and then stop with that, we would have in use at the maximum, a little over 200,000 acres of land. If, however, we want to again sow the same amount of seed the second year, because of the fact that you start in and harvest your shrub over a considerable period, you can't take it all up one day and plant that total area the next day, we figure we might have to have as much as 500,000 acres in use for growing guayule to produce an annual crop of approximately 80,000 tons of rubber.

Senator HOLMAN. What percentage of our demand is 80,000 tons?

Mr. GRANGER. Well, for the war effort, if something over a million tons of synthetic rubber is required—

Senator WALLGREN. Eight percent.

Mr. GRANGER. That would be 8 percent, but for normal needs, it would be a substantially larger proportion. The normal needs were, I think, around 400,000 tons a year.

Senator HOLMAN. May I inquire about the problem of soil exhaustion?

Mr. GRANGER. As far as I know now, Senator Holman, that is not a serious factor. This appears to be a shrub that can be grown in that way without exhausting the soil. But, if necessary we can fertilize. That is perfectly feasible.

Senator DOWNEY. If you will allow me to interrupt, Senator Holman, I want to make this point clear, although I have already stated it: 100,000 tons of guayule could be intermixed with 500,000 tons of synthetic to make the latter very much more valuable and of very much higher quality.

Mr. GRANGER. May I make a very brief statement, Mr. Chairman, if that is your pleasure, on the reason for this proposal to raise the limitation?

The CHAIRMAN. Yes.

Mr. GRANGER. My recollection is that the limitation of 75,000 acres sprang very largely from the fact that that was all the seed that there was available at that time. It was anticipated that the seed which was available then would enable us to plant about 75,000 acres. There seemed to be a feeling that there should be some limitation so that figure was selected as allowing us to do what we could do with the seed then available.

Then, as Senator Downey has brought out, the seed harvest was very much larger than we expected, which was due to a combination of an excellent seed year, and picking by hand instead of with the inefficient machinery which the private company we bought out had been using in the past. So that, instead of getting just enough seed to barely resow our present nursery, we got enough to allow us to sow about four more nurseries of the same size.

This, of course, was brought to the attention of the Barnet committee when they came to us asking for a statement on the status of

the guayule program. We supplied them with a detailed report, showing what might be done with this seed, and what it would take in the way of critical materials to accomplish it.

At the same time the Rubber Coordinator's Office of the War Production Board were in constant touch with us and we furnished them a copy of the same factual material.

The Secretary of Agriculture, in transmitting this to the Baruch committee, refrained from making any recommendation as to whether the program should be expanded, believing that that decision should rest with those who were in possession of all the facts about our rubber situation.

Just before the Baruch committee issued its report, the War Production Board asked the Department of Agriculture to go ahead with that part of the expanded program which involved the installation of 20,000 seed beds this fall so that we might sow those this fall in the warm country in southern California and get a winter crop of seedlings which we could then put into the ground next spring at the same time we are planting the nursery stock which was sown in the present nursery last spring.

Senator WALLGREN. You mentioned that you were going to harvest a crop in 1944.

Mr. GRANGER. Yes.

Senator WALLGREN. That crop has not been planted as yet?

Mr. GRANGER. That is right. The crop we will harvest in 1944 will be planted in the spring of 1943.

Senator WALLGREN. And those plants will hardly be more than a year old?

Mr. GRANGER. No. They will have two full growing seasons. They will have the 1943 and the 1944 growing seasons.

Senator DOWNEY. Those will be the seeds you saw when you were out there, Senator. They are now in the seedbeds, is that not correct?

Mr. GRANGER. Yes.

In addition, we propose to put in these new seedbeds this fall. Those plants will be in effect 3 years old when they are harvested. We had figured, if the national situation would permit, on letting these plants become 4 years old in the field, and we would get a lot more rubber by doing that, but in view of the critical need for rubber we will harvest when the plants have been only 2 years in the field.

At first we were talking largely of planting on nonirrigated land. We have been studying this thing very intensively and our people out at Salinas have concluded that they will get better results on irrigated land. By using irrigated land they figure that they can harvest this shrub at the end of 2 years in the field and get something over 800 pounds of rubber to the acre, and because of the exigency of the rubber situation that is our present proposal.

Senator THOMAS. What would be the best, for the plants to stay in the ground for 5 or 6 or 7 years?

Mr. GRANGER. Probably 7 years. That would be an economic rotation.

Senator THOMAS. Isn't that an argument for putting out as much as you can now?

Mr. GRANGER. It would seem so, and that is what we propose to do—to utilize every bit of the seed that we have now.



Senator SCHWARTZ. These permanent plantings are not all in one place?

Mr. GRANGER. They will be in several parts of California and perhaps in some other States.

Senator SCHWARTZ. You will use available irrigation facilities?

Mr. GRANGER. Yes.

Senator SCHWARTZ. You are not contemplating building new reservoirs and endeavoring to get the necessary material?

Mr. GRANGER. No. On this request from the Chairman of the War Production Board we went over to the Budget Bureau and asked them to reallocate the appropriation made for the work this year so that we might start immediately on the installation of these 20,000 seedbeds in southern California for sowing this fall.

Senator SCHWARTZ. Might I ask where you will get the labor, and what kind of labor is going to do this work? You say you hand-picked this seed instead of using machines.

Mr. GRANGER. Yes. We had a great deal of difficulty in getting labor, and early last summer, when the little guayule plants came up in the nursery, weeds pretty nearly took them away from us.

We enlisted the cooperation of a lot of women's organizations and other groups, and got more than 2,000 women to come out and work in the nursery and they saved the day. We got women from all walks of life. They looked upon it as a patriotic contribution. They came out and stuck to the job and, as I say, they saved the enterprise. If it had not been for the women we would have lost a large part of our nursery crop.

Senator THOMAS. Did you pay them?

Mr. GRANGER. Yes; we paid them the regular going wage in the locality.

Senator DOWNEY. I understand that they did a very fine job.

Mr. GRANGER. A very fine job. We expect to have the same thing again on a larger scale.

Now, these 20,000 new seedbeds, plus the old beds that we have in the Salinas nurseries, will produce enough stock, as is now estimated, to allow us to plant about 88,000 acres in the spring of 1943. That requires, of course, that we have the limitation in the act raised.

The 20,000 beds will be used twice a year under our projected program so that, in effect, they constitute 40,000 beds, you see, on an annual basis.

In addition to that, in order to use all the seed we now have, it is proposed to install another 11,000 beds further north in California, so that we will have a total seedbed capacity of 63,000 beds. When we get all those going, it will, as I indicated earlier, allow us to maintain an annual production, if that is decided upon by Congress, which will require a maximum of 500,000 acres for field plantations.

Now, I can't speak with the approval of the administration because there hasn't been time to put this through all the customary procedure, but my own belief is that the way to do this is the way proposed by Senator Downey, namely—to remove the limitation entirely and then leave the determination of the size of the program and the rate of expansion to be controlled by appropriations, which is perfectly feasible, of course, because our Congress can keep the thing under control that way. That would be somewhat simpler than setting up a new limitation if it is decided to undertake an even larger program.



The CHAIRMAN. When will you harvest the first rubber plants?

Mr. GRANGER. We will harvest this fall, Mr. Chairman, something over 500 acres of old shrubs that we bought, which we hope will produce about 600 tons of rubber.

The CHAIRMAN. I mean the stuff you have planted.

Mr. GRANGER. The stuff we have planted will produce a few tons of rubber in 1943, but the main crop, still to be planted, will not be harvested until beginning in the fall of 1944.

The CHAIRMAN. How many acres have you under cultivation now, exclusive of the 500 acres that you bought?

Mr. GRANGER. There are four or five hundred additional acres that we bought from the company that we won't harvest now; and then we planted between eight and nine hundred acres this last spring.

The CHAIRMAN. How much have you planted altogether?

Mr. GRANGER. That is all we planted so far, between eight and nine hundred acres.

The CHAIRMAN. You have authority under the present program to put in 75,000 acres?

Mr. GRANGER. Yes.

The CHAIRMAN. How long will that take?

Mr. GRANGER. That will be planted in the spring of 1943.

The CHAIRMAN. It will all be planted then?

Mr. GRANGER. Yes; that is where the pinch comes, because we will have enough plant stock to plant more than that in the spring of 1943.

The CHAIRMAN. And you want additional power to plant all the acres for which you have seed?

Mr. GRANGER. Yes.

The CHAIRMAN. Because the seed is what had been holding you back?

Mr. GRANGER. Yes.

The CHAIRMAN. How many pounds of this shrub do you get off each acre ordinarily, on the average? The shrub itself, not rubber?

Mr. GRANGER. Well, I will have to do a little arithmetic here.

The CHAIRMAN. Just approximately per acre.

Senator JOHNSON. You said that you would get 600 tons off 500 acres.

Mr. GRANGER. That is 600 tons of rubber.

Senator JOHNSON. Yes; was that a correct statement?

Mr. GRANGER. Yes; the reason for that is that that is old growth. It is about 12 years old, and has an exceptionally high rubber content. It is about a ton to the acre, and that is a big yield. We won't get that in the future. The rubber content there is well over 20 percent, so we would get about 5 or 6 tons of shrub to the acre.

The CHAIRMAN. How many pounds of rubber would you get from each ton?

Mr. GRANGER. We figure on this 2-year rotation business to get something over 800 pounds of rubber per acre.

The CHAIRMAN. The Chair recognizes Senator Johnson.

Senator JOHNSON. I want to say, if that is correct, 600 tons from 500 acres, which is about 2,500 pounds—

Mr. GRANGER. Short tons.

Senator JOHNSON. That is 2,000; it would be 2,400 or 2,500 pounds of rubber to the acre. I am surprised at that yield.

Senator LEE. That is not an annual yield.

Mr. GRANGER. That is an extra large yield, which we will not get again.

Senator JOHNSON. I suppose these plants are completely destroyed when you take that yield?

Mr. GRANGER. Yes.

Senator SCHWARTZ. How old were those plants?

Mr. GRANGER. They were about 12 years old.

The CHAIRMAN. How about this stuff you are planting now?

Mr. GRANGER. What we are planting now we will harvest after it has been in the field 2 years. And then we figure on getting about 800 pounds per acre.

Senator DOWNEY. About 40 percent as much as from the old stock.

Mr. Chairman, if I might interject a comment, I don't know whether or not all the committee understood that what the Department of Agriculture has done is to plant out 530 acres of seedbeds with the seed they bought last spring.

The CHAIRMAN. Yes.

Senator DOWNEY. And those seedlings will now be planted out in about 32,000 acres of land and will then remain until the fall of 1944.

The CHAIRMAN. Where are you going to get your land? Are we buying it outright?

Mr. GRANGER. We just lease the land on which to make the plantations.

The CHAIRMAN. How much do you pay for it?

Mr. GRANGER. We will probably have to pay around \$30 or \$35 an acre for irrigated land.

The CHAIRMAN. I don't mean to buy it.

Mr. GRANGER. That is the annual rental. Those annual rentals are based on what the land would earn if it were kept in its customary crop. This land that we propose to use is all in some other crop. In other words, we can't go out and take raw land and use it. It would be possible, but it wouldn't be profitable.

Senator THOMAS. Must this plant be confined to southern California?

Mr. GRANGER. No. It will grow elsewhere.

The CHAIRMAN. Where else will it grow?

Mr. GRANGER. It will grow in southern Arizona and Texas and in a small area in New Mexico, but we have not yet determined how successful plantings in these areas would be.

The CHAIRMAN. Will it grow anywhere in the South?

Mr. GRANGER. No. It has to have a dry climate.

Senator SCHWARTZ. What sort of crops are raised on this land now?

Mr. GRANGER. Different kinds. Some lettuce land, some grain land, vegetable crops, various things of that sort; but the Department of Agriculture determined that the need for guayule was such, and the limited area in which it can be grown is so small, that they could afford to give guayule priority over other crops, because of the chance to utilize other land for other crops; land is available for other crops to a much greater degree than for guayule.

The CHAIRMAN. What do you do with this when you get it off the land, stack it like hay?

Mr. GRANGER. They bale it up.

The CHAIRMAN. It is baled?

Mr. GRANGER. Yes, and taken into the factory and there it is put through an extractive process.

The CHAIRMAN. But you harvest it like you would grain?

Mr. GRANGER. You pull them up. There is rubber in every part except the leaves.

The CHAIRMAN. And is that done by hand?

Mr. GRANGER. No, they have machines for it.

The CHAIRMAN. And then it is baled?

Mr. GRANGER. Yes.

Senator LEE. Do you want an unlimited acreage? Is that why you would amend the act by striking out "an area of 75,000 acres of"?

Mr. GRANGER. That would seem to me to be the logical thing, to have the limitation taken off, and control the size of the program by appropriation.

Senator SCHWARTZ. That intrigues me. One by one, we are transferring the jurisdiction of this and other committees to the Appropriations Committee, and it seems to me that this committee peculiarly ought to determine what the program is and not the Appropriations Committee. At least, we ought to authorize some kind of appropriation.

Mr. GRANGER. I would not make any objection at all if that is decided because we could operate under a limit of 500,000 acres very comfortably and do all that is now projected.

Senator LEE. I would rather do that.

Members of this committee will have to get on the Appropriations Committee, or we won't have any voice. Everything is transferred to the Appropriations Committee. The result is these things do not come back to this committee.

Senator JOHNSON. Mr. Chairman, as far as I am concerned I don't want a limit of any kind on the production of rubber in this country; I don't care who has the authority; that doesn't bother me.

The CHAIRMAN. Do you want a limit?

Senator JOHNSON. 75,000 or 100,000 or 200,000, or any other limit, if they can use it; let the limit be fixed by their ability and capacity to grow the stuff.

Senator DOWNEY. Senator Lee, may I point this out to you? In any event, you have to get the money from the Appropriations Committee, for 500,000 acres, or whatever it may be. I mean, the mere fact that we put 500,000 acres as a limit in the bill now wouldn't obviate the necessity of getting the money from the Appropriations Committee. That committee would still remain in the driver's seat.

The CHAIRMAN. Senator Wallgren.

Senator WALLGREN. With the available seed, how many acres could you plant immediately?

Mr. GRANGER. In the spring of 1943 we could plant about 88,000 acres.

Senator WALLGREN. Then you won't have seed out until next year?

Mr. GRANGER. Yes. Then we will have some more stocks in the nurseries coming along for planting in the next spring and that will run up to a total of a little over 200,000 acres.

Senator WALLGREN. The need is so great for a vast amount of this product that it looks to me like you should not be cut down by any limit.

The CHAIRMAN. I understand the Senator from Washington has been out there and has seen those fields of rubber.

Senator DOWNEY. And Senator Kilgore also.

The CHAIRMAN. What do you gentlemen think about it?

Senator TRUMAN. I don't think there ought to be a limit on it. I think the proper limit is the seed limit.

Senator WALLGREN. We ought to encourage as many plants as possible.

Mr. GRANGER. There is almost no limit to which we can ultimately go, as far as future seed possibilities are concerned.

Senator KILGORE. Has anything been done with reference to harvesting wild seed out of Mexico?

Mr. GRANGER. Yes; they got seed from Mexico originally. That is where they first got their supply of seed.

Senator KILGORE. I mean more seed?

Mr. GRANGER. No.

Senator KILGORE. When I was in southern California they talked about the possibility of exploiting wild Mexican guayule to get seed for planting in this country, and some Americans down there talked about a survey—you remember that, Senator Wallgren—and I wondered if you had made any survey.

Mr. GRANGER. Yes; there is a very large acreage of wild shrub in Mexico, but the difficulty about it is that, if you go out and get seed as you come to it, you get a lot of seed from shrubs of low rubber content, and the result is that you put in a lot of time and effort in sowing seed which will produce very little rubber. What has been done is to get special high-yielding strains, and they are what we are using seed from.

What you would have to do if you went into Mexico would be to try to discover the plants having the greatest rubber content, but that would be a slow process and would not expedite this program very much. We are now collecting seed in this way for test planting.

Senator JOHNSON. What is your interest in this matter? Are you a producer of seed?

Mr. GRANGER. I represent the Forest Service, which is charged by the Secretary of Agriculture with the execution of this program.

Senator JOHNSON. And you have no interest outside of that?

Mr. GRANGER. No, indeed. I am in the Government service, and I am only concerned with that.

Senator JOHNSON. There are improved strains of guayule then?

Mr. GRANGER. Oh, yes; they are what we are using now. We bought the seed from those improved strains last year from the Intercontinental Rubber Co. That was all the seed there was and that was what gave us the start. Now, the seed we collected ourselves is what we have and that is all the seed there is.

Senator DOWNEY. If I may interrupt with a question, we took a little over 20,000 pounds of seed, didn't we, out to Salinas?

Mr. GRANGER. Yes.

Senator DOWNEY. And how much seed will we have now?

Mr. GRANGER. We will have a little over 130,000 pounds.

Senator DOWNEY. I might state again for the record, Senator Johnson, that I personally saw the Salinas project about a month ago, and Mr. Granger and Major Kelly and Mr. Roberts and their associates, I think, have done one of the finest jobs in farm production that I have



ever seen. Mr. Granger has been with the Forest Service for a long time.

The CHAIRMAN. Mr. Granger, taking into consideration the fact that we have to pay \$35 a year an acre for this land, and have to have the seedbeds, which take additional acres, and the harvesting and baling, and so forth, what does it cost us per pound to get the rubber in its manufactured form?

Mr. GRANGER. I am wholly unable to tell you what this rubber will cost because there are still many undetermined elements of cost.

The CHAIRMAN. Approximately.

Mr. GRANGER. A great many of the costs are still just a matter of conjecture. But if this enlarged program were undertaken exclusively as an immediate war measure and we sowed all the seed we have now and put up the 56 factories which will be necessary to get the rubber out of the plants and then scrapped the whole thing after we had harvested the rubber from this seed crop, it would cost around 80 cents a pound.

The CHAIRMAN. What do we pay for rubber today from the Malay States?

Mr. GRANGER. The price of rubber from the Malay States was placed, I believe, at 22 cents. The present price of guayule rubber is 28 cents.

The CHAIRMAN. What are we paying for Brazilian rubber?

Mr. GRANGER. I think that is about 46 cents a pound. I haven't seen the quotations lately.

Now, of course, that is not what should be done—scrap the whole enterprise. My personal belief is that, once we get going, this will become a permanent part of our agricultural and rubber economy.

The CHAIRMAN. Don't you think that eventually we will be able to manufacture synthetic rubber cheaper than we can buy the crude rubber, the natural rubber?

Mr. GRANGER. I don't believe my opinion on that would be any good, because I am not an expert in the synthetic field.

The CHAIRMAN. Any other questions?

Senator LEE. What kind of machinery or factory has to be set up to transform the raw product into rubber?

Mr. GRANGER. Well, the present process requires a pebble mill, a type of factory in which they grind up the shrub; it is put between rollers and macerated, and then put into these pebble mills, which are revolving cylinders in which there are hard flint pebbles, which keep working on this stuff and it separates the rubber in the shrub from the rest, from the wood, the shrub itself, and then after that is turned over for awhile, they put it into a tank full of water, and the rubber floats, and a great deal of the rest of the shrub goes to the bottom and then to complete that process they put it into another tank, under pressure, and the other remaining woody stuff is removed; it is water-logged, a combination of air and water, and the stuff sinks to the bottom and the rubber is on top, and it is skimmed off and it is dried.

We are experimenting with a process which we hope may require a very small quantity of critical material for the factories and which will produce a cleaner rubber with less resin in it, but whether we will be able to accomplish that is still speculative.

Senator LEE. That is what I was leading up to. How much critical material is required? How big an outfit is one of these factories?



Mr. GRANGER. Well, one of these factories take around 420 tons of steel, as I recall.

Senator LEE. One of them takes that much?

Mr. GRANGER. Yes, sir.

Senator LEE. And you say you will have to have how many?

Mr. GRANGER. We would have to have 56 factories of the capacity of the one we now own to handle the product of our present seed supply. So it takes a lot of material. Ninety-five factories would be required if the project were put on a continuing basis.

The CHAIRMAN. Are you planning on building 56 factories?

Mr. GRANGER. Yes.

Senator KILGORE. Do you use wooden tanks for that process?

Mr. GRANGER. The ones we have I think are metal but could very well be wood.

Senator KILGORE. I do not see why you could not use cypress for that.

Mr. GRANGER. Yes.

The CHAIRMAN. When will you have those 56 factories built?

Mr. GRANGER. We will be started within a year.

The CHAIRMAN. When will they be completed?

Mr. GRANGER. A part will have to be completed in 1944.

The CHAIRMAN. Will you have enough rubber to supply the 56?

Mr. GRANGER. Yes; at the time of the 1945 harvest.

Senator JOHNSON. Do you harvest this shrub the year through, or do you have a certain period of the year when the rubber is better than at some other time? Can you harvest it any month in the year and any day in the month?

Mr. GRANGER. We think we will be able to harvest for a considerable period by improving the methods of storage and the methods of grinding. That is under study now. We will have to do that for we will have to have a good many more factories than I have indicated.

Senator JOHNSON. Of course, with the sugar factories, those handling sugar beets, we only have a short season, a campaign of 6 weeks or 2 months; but with this product, the factory could run the year round, every day in the year, could it not?

Mr. GRANGER. Yes.

Senator KILGORE. Aren't there some periods when the rubber content is low and other periods when it is high?

Mr. GRANGER. There is some question about that, a technical question, and I am not prepared to answer.

Senator KILGORE. At certain periods you get a low rubber content, and if you pull them up at the right time, you get more rubber?

Senator DOWNEY. Senator Kilgore has a very fine memory. We heard that acrimoniously discussed at Salinas.

Mr. Chairman, would it be proper now for Mr. Granger to state the additional amendments of a technical nature that the Department wants put in this bill?

The CHAIRMAN. Yes; if there are not any more questions by members.

Senator LEE. I would like to offer an amendment as follows:

In section II, where it says, "by striking out 'an area of 75,000 acres of,'" substitute there an area of "500,000 acres of."

That, as I understand it, is in accordance with what Mr. Granger said would be agreeable. That would be enough to take care of all the seeds you have at the present time.

Mr. GRANGER. Yes. It will be more than enough to take care of what we have now. It will enable us to proceed on an annual basis of the same size.

Senator LEE. With the order now coming for synthetic rubber and bearing down on that, for us to put no limitation at all on this, with the possibility of building 95 or 100 of these factories, each one of which takes 420 tons of critical material, it seems to me that this is not an unreasonable thing to do. Later, if we have more seed, and at that time it appears desirable to further enlarge the program, in the light of what the synthetic rubber people are doing, then we can do that.

The CHAIRMAN. I think the gentleman here stated a moment ago that the Agricultural Department does not want to put a limit on the acreage. Is that correct?

Mr. GRANGER. No; I do not think the Department, Mr. Chairman, would hold out for taking the limit off entirely, as long as we could operate in the near future under whatever limit is imposed here.

Now, in line with what some of the members of the committee said as to their belief that there should be no limit and that we should expand to very large proportions, just to make sure that there is no misunderstanding, I would like to say this: Next year we can collect a lot more seed, so that the limit to which we might go in expanding the program would be governed primarily by the amount of land which could be found which was suitable for growing this particular crop. It might be several million acres.

The CHAIRMAN. What is Senator Downey's answer to the suggestion made by Senator Lee?

Senator LEE. I made a motion, Mr. Chairman.

Senator KILGORE. I would like to say something on the motion.

With 75,000 acres, the biggest expectation you could hope to get in the way of a crop wouldn't amount to over 75,000 tons, and I would say around 60,000 tons.

Now, even if we expand synthetic rubber to the maximum, we are going to have to have natural rubber to mix with it if we are to get a good quality for our armed forces. If we limit ourselves to 60,000 tons, on a 20-percent basis, which is about the highest, it would mean a potential synthetic rubber production for the armed forces of only 240,000 tons a year, on the basis of 75,000 acres of guayule, unless we bring in some foreign importations.

Senator LEE. My motion was to make it 500,000 acres.

Senator KILGORE. In place of 75,000 acres?

Senator LEE. Yes; which Mr. Granger says is all they have seed for, and then, if we have more seed next year and want to extend it again, that can be done.

The CHAIRMAN. What do you have to say, Senator Downey?

Senator DOWNEY. I have no serious objection to Senator Lee's amendment because I do not think it makes very much practical difference. The President thought that, as far as possible, we should follow the recommendations of the Baruch report, and the Baruch report does recommend that we entirely lift the limitation out of the law. I didn't

reach Mr. Baruch, but I reached his secretary. Their attitude is this: We have a war that may last 5 or 10 or 15 years, and we may need a very large amount of guayule rubber, and we want to get the law in shape to go ahead, if we had to, by removing any limitation.

There are several practical limitations: The first being lack of appropriation; the second, the need of strategic war material, which will have to be secured through the War Production Board; and, lastly, the amount of land, which will have to be secured, at least, through the cooperation of the Department of Agriculture.

But, frankly, whatever the committee wants to do is satisfactory with me.

Senator LEE. Mr. Chairman, I am certainly not arguing for any limitation on the production of rubber, and no interpretation of my amendment could be so construed. I am following the recommendation of Mr. Granger, who says that is certainly enough land for the seed they have and more, too. Now, for us to say "expand everything as fast as you can," that is exactly where we are now. The War Department and the Navy Department have given unlimited orders that have tied up strategic material for activities that are not anywhere as important, for example, as airplanes. If we give unlimited orders for everything, and at the same time are expanding these synthetic plants, as will be done, why, we may have great amounts of material tied up in something that we do not need as much as we need something else.

The CHAIRMAN. I suppose the Senator has considered the fact that, by limiting this to 500,000 acres, you will provide other departments of the Government interested in this production with an opportunity to make their calculations?

Senator LEE. Yes; and it will provide us with an opportunity a year later to see, in the light of what has gone on, whether we want to extend and how much we want to extend.

Senator DOWNEY. Mr. Chairman, in view of Senator Lee's very persuasive statement, I have no objection to accepting the amendment or suggestion, and I do think it might be very good strategy. Probably the limitation of 500,000 acres might be a wise move.

The CHAIRMAN. Any objection to that, gentlemen?

Senator KILGORE. I misunderstood Senator Lee, and I apologize.

The CHAIRMAN. You gentlemen who have been out there and seen and observed it, have no objection to it. Therefore, there being no objection, the motion is adopted and it is made an amendment to the bill.

Now, is there anyone else here to say anything about this?

Senator DOWNEY. Mr. Granger had certain other technical changes in the bill the Department of Agriculture wants to recommend.

The CHAIRMAN. We will hear them now.

Mr. GRANGER. These proposals, Mr. Chairman, have not been through the usual process. I have not had a chance, even, to have them typewritten, but I can indicate to the committee what they are, and Mr. Pinion, from the Legislative Counsel, is here and is prepared to draft whatever the committee is willing to approve.

The CHAIRMAN. Proceed.

Mr. GRANGER. The first one has to do—I am talking now from the present law, the act of March 5, 1942—with paragraph (2) of section 1, which authorizes purchase of land for nurseries. The present law

does not authorize the purchase of land for any other purpose. We will quite possibly have to buy small areas of land on which to construct buildings useful in the administration of this project, headquarters and storehouses and things of that sort, where we know we are going to be for a long time. We would like to have added, after the word "nurseries," the words "and administrative sites."

The CHAIRMAN. Any comment?

Senator DOWNEY. That includes your factories?

Mr. GRANGER. We might want to do the same thing for factories; yes.

The CHAIRMAN. Administrative sites and factories.

Senator DOWNEY. Administrative and factory sites.

Mr. GRANGER. Perhaps it would be better to put in "factory sites" there, too.

The CHAIRMAN. Administrative sites and factory sites.

Mr. GRANGER. Yes.

The CHAIRMAN. Any discussion on that?

Of course, you must have administration sites and factory sites in order to do any good with the bill; that is, to carry out the objectives of the bill; isn't that right?

Mr. GRANGER. Yes.

The CHAIRMAN. Any discussion, gentlemen?

If not, Senator Downey's suggestion will be adopted. What is the next one?

Mr. GRANGER. The next one has to do with paragraph (3). At the end of the second line insert this line—

The CHAIRMAN. After the semicolon?

Mr. GRANGER. Yes, sir. "to acquire water rights; to erect necessary buildings on leased land where suitable land cannot be purchased;". Now, the purpose of that is to clear up any doubt as to whether this law authorizes us to acquire water rights as well as to acquire the right to use the land because we are in the irrigated land business now.

The CHAIRMAN. The land would not do you any good unless you had the water rights, would it?

Mr. GRANGER. That is right.

The second part of it has to do with the legal question as to whether buildings of a semipermanent nature may be erected on any land to which the Government does not have title. We find in some cases that the landholder does not want to sell any of his land, but is willing to lease it; he does not want to let it go.

The CHAIRMAN. Would he acquire the building?

Mr. GRANGER. No; the building would not become his property; it would be subject to removal by us. If we put up a warehouse on leased land and at the end of 10 years we turned the leased land back to the owner, that building could be removed.

The CHAIRMAN. Under contract.

Mr. GRANGER. Yes; but there is some doubt as to the legal authority to put up a building on land to which the Government does not have title.

The CHAIRMAN. In the contract you draft as a result of the proposed amendment, you would have the right to remove the building or any portion thereof?

Mr. GRANGER. Yes.

The CHAIRMAN. Any discussion?



Senator THOMAS. Yes.

Your suggestion for water rights under paragraph 3, will that include water rights in your amendment under paragraph 2? You can't buy land without buying water rights, in any of these irrigated lands. You couldn't have a factory site that would be any good without water rights.

Mr. GRANGER. I had assumed that they would have to have all water rights, for whatever purpose.

Senator THOMAS. I think that the Legislative Counsel ought to look that up, because if you are going to buy administrative sites, you have to buy water rights for them just as well as your agricultural water rights.

The CHAIRMAN. What about that, Mr. Pinion?

DWIGHT J. PINION (of Office of Legislative Counsel). It doesn't seem to me that water rights such as irrigation water rights would be necessarily needed with administrative sites.

Senator THOMAS. The land and the water generally go together in western lands and to buy land without buying water means you have land which is rather useless; and a man, if he is selling land, likes to sell his water, too. He has no use for the water without the land.

Senator Downey would know more about that than I would, having handled so many of these legal cases. The Government did go into some of these western places to build munition plants, and so forth, and said, "we don't need the water; we just want the land," thinking that water comes as in other places, but it did not work that way. I would be careful about that, wouldn't you, Senator?

Senator DOWNEY. Yes. I would. That is a suggestion that should be carefully considered.

The CHAIRMAN. There would be no objection to inserting that suggestion in regard to water rights?

Mr. PINION. I see no objection.

Senator THOMAS. I would add "factory sites and water rights."

Senator DOWNEY. I think that is a very sound suggestion.

Mr. GRANGER. Yes. I appreciate your calling that to our attention, Senator.

Senator THOMAS. I wouldn't put any limitation on it. I would leave it "water rights."

The CHAIRMAN. We will take up the next one.

Mr. GRANGER. The next suggestion is in relation to paragraph (4); at the semicolon, in line 3, insert the words, "to purchase guayule shrub;".

The CHAIRMAN. Just a minute. Let us read that paragraph.

Mr. GRANGER. Paragraph (4)!

The CHAIRMAN. Yes.

Mr. GRANGER [reading]. "To construct or operate, or to contract for the operation of, factories for the extraction of rubber from guayule, and from chrysothamnus, commonly known as rabbit brush."

And then I propose to insert "to purchase guayule shrub." The reason for that is this: That there is shrub in Mexico, and there is a little of it in Texas, which it has been suggested that we buy and process in our present factory at Salinas.

Now, there is some doubt as to whether the language of the present law would authorize us to purchase that shrub, and to remove any possible doubt we want to get that authority established.



Senator DOWNEY. I assume there will be no objection to that?

Senator THOMAS. What about your rabbit brush?

Mr. GRANGER. The reason I did not put that in is that there is another paragraph here, paragraph (9), that authorizes doing with any other rubber-bearing plant everything that is authorized for guayule.

The CHAIRMAN. No objection to that. Now, what else?

Mr. GRANGER. In paragraph (8), just a minor matter of language, and to carry out the intent of Senator Downey's bill. Insert right after the word "maintaining," in the second line, the word "areas"; otherwise, the sentence will not be complete.

Senator DOWNEY. I assume there will be no objection to that?

Mr. GRANGER. It will be again changed when you run in the 500,000 acres. Just a matter of making the English correct there.

The CHAIRMAN. There is no objection to that?

Mr. GRANGER. Now, in section 2 (a), in the second line, mention is made of employing citizens of countries in the Western Hemisphere. The purpose of that was twofold, as I understand it. One was to allow us to hire citizens of other countries in the event that we carried on operations in other countries in the Western Hemisphere; and also to allow us to employ some Mexicans in California who have been working on this project for a long time.

The CHAIRMAN. Then that has a twofold purpose. One is to employ foreign labor in foreign countries and the other is to utilize the 75,000 Mexicans that we are bringing into California; is that right?

Mr. GRANGER. Yes; well, originally there were not 75,000, but it would have the same effect on these others that are coming in now.

The CHAIRMAN. The paper stated they were going to bring in 75,000.

Mr. GRANGER. Now, we may want to employ some Japanese on this, and probably people of other nationalities not in the Western Hemisphere, and we would like to have our authority clearly defined to do that.

So my proposal is that in line 2 of section 2 (a), after the word "of"—which is the third word in the second line—we insert the word "other" so that it will read: "including citizens of other countries" and then strike out the words "in the Western Hemisphere."

The CHAIRMAN. Where are you going to get the Japanese?

Mr. GRANGER. From the War Relocation Authority.

The CHAIRMAN. The concentration areas?

Mr. GRANGER. Yes.

Senator SCHWARTZ. The people in the War Relocation Authority, 90 percent of them, are citizens of the United States.

Mr. GRANGER. Yes; but some are not.

Senator THOMAS. There is another reason we ought not to confine it to the Western Hemisphere. We may, if we run into a long-time war, have prisoners of war, Japanese, people perhaps from the islands, or persons that have been taken, as our men have been taken from Wake Island, that we could give this kind of work to—for their own benefit and for ours, too.

The Western Hemisphere has not been very well defined yet. We tried hard to define it. There is no telling what our operations all over the world will do for us. I think that that should be stricken. We can surely trust the Government.

The CHAIRMAN. You want a general authority to make use of any of these people in the concentrated areas, because the Articles of War define certain work that you can make them do; isn't that right?

Mr. GRANGER. Well, if we find there are some Japanese that are experienced in this particular operation, we want authority to use them.

The CHAIRMAN. There is no objection. What is your next suggestion?

Mr. GRANGER. The next suggestion is to add a new section as section 2 (e), which would come after section 2 (d), and that section would read as follows:

The Secretary shall have all the authority conferred on him by the act of January 31, 1931 (46 Stat. 1052), in carrying out the provisions of this act.

The act cited there is an act which conferred authority on the Department of Agriculture to settle claims, damage claims, arising from damage occurring to horses, vehicles, and other equipment hired by the Forest Service from private citizens in carrying on the work.

The CHAIRMAN. You have that authority in other branches?

Mr. GRANGER. We have it in other branches of the work.

Senator SCHWARTZ. What is the limit on the amount of the claim?

Mr. GRANGER. There is no limit except in this way, if there is not a written contract of hire for that equipment, the claim would be limited to \$50.

Senator LEE. Isn't there a general authorization for such power to the Department of Agriculture without putting this in?

Mr. GRANGER. There is for other lines of work.

Senator LEE. Wouldn't that cover a new extension of authority like this?

Mr. GRANGER. Well, our law officer whom we consulted, thought we should have this in here in order to be sure it is available.

Senator LEE. Is this taken from the language of the same authorization in other acts?

Mr. GRANGER. Yes; but this particular type of activity, Senator, is outside the usual field of the Forest Service—growing rubber, and there is some doubt as to whether this authority would be construed to apply to our operations under this act.

Senator LEE. Does this authority to the Forest Service now parallel the authority to the Agricultural Department in, say, experimental stations and things of that kind; is it the same authority?

Mr. GRANGER. I believe not. This is special authority granted to the Forest Service, because we had so much of this business of hiring other people's horses, particularly in the early days, when there was less claim legislation on the books, and it enables us to satisfy any claims, which are usually small; they usually relate to one implement or one horse.

The CHAIRMAN. Any objection to this?

The Chair hears none.

What is the next?

Mr. GRANGER. That is all.

Senator LEE. Mr. Chairman, in that amendment which was accepted, I wonder if the language should not be, "not to exceed 500,000 acres" rather than just "500,000 acres."

The CHAIRMAN. What do you say, Mr. Pinion?

Mr. PINION. I think it should. As it reads now, it reads, "not in excess of 75,000."

Senator LEE. That is the way I intended it; "75,000" should be stricken out and "500,000" substituted.

Senator GURNEY. I move that Senator Downey be authorized to make the amendments as agreed on by the committee and that the bill be reported out.

The CHAIRMAN. Any objection?

Senator LEE. I second the motion.

The CHAIRMAN. There is no objection. Senator Downey, you may confer with the legislative clerk regarding the amendments.

(Thereupon the consideration of S. 2775 was concluded and the committee took up other matters.)

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EXPANSION OF PROGRAM RELATING TO PLANTING OF  
GUAYULE AND OTHER RUBBER-BEARING PLANTS

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SEPTEMBER 17, 1942.—Ordered to be printed

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Mr. DOWNEY, from the Committee on Military Affairs, submitted the following

## REPORT

[To accompany S. 2775]

The Committee on Military Affairs, to whom was referred the bill (S. 2775) to amend the act of March 5, 1942, relating to the planting of guayule and other rubber-bearing plants, having considered the same, report favorably thereon with an amendment in the nature of a substitute and recommend that the bill as amended do pass.

The principal purpose of this bill is to increase the acreage limitation in section 2 of the act of March 5, 1942, to not to exceed 500,000 acres. The Department of Agriculture, which is administering this program, has harvested an unexpectedly large quantity of guayule seed which makes it possible to go ahead on a scale of operations which would exceed the 75,000-acre limitation.

Briefly, the situation is that something over 130,000 pounds of guayule seed have been gathered. By sowing part of this seed in additional nurseries to be established this fall, enough guayule planting stock can be made available, in addition to that now in the Salinas nursery, to plant about 88,000 acres in the field next spring. The seed remaining after this is done can be used in still other new nurseries which would produce planting stock for spring planting in 1944. Meanwhile, the nurseries which will be sown this fall can be sown again in the spring of 1943 so that an additional acreage can be sown that will bring the total area which can be planted from present seed supply and existing nursery stock up to 207,000 acres.

The War Production Board and the Rubber Survey Committee, headed by Mr. Baruch, have both recommended that this expanded program be undertaken and that the necessary legislative action be taken immediately in order that the work necessary this fall may be completed in time.

Under this enlarged program and in view of the urgency of the need for natural rubber, the Department of Agriculture is planning to harvest the crop at the end of 2 years in the field plantations. They

estimate that the harvest beginning in the fall of 1944 will produce something over 33,000 tons of rubber, and that beginning in the fall of 1945 about 47,000 tons, or a total of around 80,000 tons of rubber.

There is much to commend the idea of continuing the program on this scale, or on an even greater scale. If continued on the scale proposed at present, it is estimated that there could be produced annually approximately 80,000 tons of rubber on a 2-year rotation. This would require the use of approximately 500,000 acres of land.

The committee are impressed with the value of the proposed expansion in this program and recommend establishing a new limitation of 500,000 acres. If within the next year or so it seems desirable to go even further, there will be ample opportunity for consideration by Congress of an even higher limitation or of removing the limitation altogether.

The committee also believe that several other amendments of the act of March 5, 1942, would be desirable in facilitating the execution of the program.

The enlarged program will require establishing headquarters at various places other than the present central headquarters at Salinas, Calif., and certain buildings for administrative purposes will be required. The Department needs authority to purchase sites for such buildings and to acquire water rights in connection with any property which it purchases for this purpose or for the purpose of providing sites for processing plants.

Most of the plantations which are leased pursuant to paragraph (3) of the act of March 5, 1942, will be on irrigated land, and authority is needed to acquire the right to use the necessary water. It may be necessary also to erect buildings for storage or other purposes on leased land when it is impracticable to purchase sites for such structures. In some cases owners are willing to lease their land but not willing to dispose of it permanently. The suggested amendment would overcome any present legal obstacles to erecting buildings on land to which the Government does not have title. The buildings would be of a character which could be removed at the termination of the lease, and their removal by the Government would be provided for in the lease.

The authorization to buy guayule shrub is desirable in case it proves practicable and desirable to purchase wild shrub and ship it to the Government-owned guayule factory at Salinas for processing.

The shortage of labor may be such that it will be necessary to employ citizens of countries other than those in the Western Hemisphere. For example, there may be aliens in this country who could suitably be employed on this project either to help overcome labor shortage or provide certain technical skills, such as have been developed in similar undertakings as, for instance, in Russia, and the committee believe that authorization of this sort is desirable.

The Secretary of Agriculture has been authorized to compensate owners of rented equipment for loss or damage to such property incurred in connection with other activities of the Forest Service. The committee deem it advisable to extend this authority to cover the administration of the guayule project. Cases of this kind are not likely to arise frequently or to involve substantial sums of money, but authority to deal with them would appear to be particularly useful in connection with an emergency program of this nature.

Calendar No. 1659

77TH CONGRESS  
2D SESSION

**S. 2775**

[Report No. 1607]

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IN THE SENATE OF THE UNITED STATES

SEPTEMBER 14, 1942

Mr. DOWNEY introduced the following bill; which was read twice and referred to the Committee on Military Affairs

SEPTEMBER 17, 1942

Reported by Mr. DOWNEY, with an amendment

[Strike out all after the enacting clause and insert the part printed in italics]

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**A BILL**

To amend the Act of March 5, 1942, relating to the planting of guayule and other rubber-bearing plants.

1       *Be it enacted by the Senate and House of Representa-*  
2       *tives of the United States of America in Congress assembled,*  
3       That paragraph ~~(2)~~ of the first section of the Act entitled  
4       “An Act to provide for the planting of guayule and other  
5       rubber-bearing plants and to make available a source of crude  
6       rubber for emergency and defense uses”, approved March 5,  
7       1942, is amended by striking out “not in excess of seventy-  
8       five thousand acres of”.

9       SEC. 2. Paragraph ~~(8)~~ of the first section of such Act

1 is hereby amended by striking out “an area of seventy-five  
2 thousand acres of”.

3 That paragraph (2) of the first section of the Act entitled  
4 “An Act to provide for the planting of guayule and other  
5 rubber-bearing plants and to make available a source of crude  
6 rubber for emergency and defense uses”, approved March 5,  
7 1942, is amended by striking out the word “seventy-five” and  
8 inserting in lieu thereof the words “five hundred”; and by  
9 striking out the words “and land for nurseries” before the  
10 semicolon at the end of such paragraph and inserting in lieu  
11 thereof the following: “land for nurseries and administrative  
12 sites, and water rights”.

13 SEC. 2. Paragraph (3) of the first section of such  
14 Act is amended by inserting after the first semicolon the fol-  
15 lowing: “to acquire water rights; to erect necessary buildings  
16 on leased land where suitable land cannot be purchased;”.

17 SEC. 3. Paragraph (4) of the first section of such Act is  
18 amended by inserting after the first semicolon the following:  
19 “to purchase guayule shrub;”.

20 SEC. 4. Paragraph (8) of the first section of such Act  
21 is amended by striking out the words “of seventy-five” and  
22 inserting in lieu thereof the words “not in excess of five  
23 hundred”.

24 SEC. 5. Section 2 (a) of such Act is amended by insert-

1    *ing after the words "citizens of" the word "other"; and by*  
2    *striking out the words "in the Western Hemisphere".*

3        *SEC. 6. Section 2 of such Act is amended by adding at*  
4    *the end thereof the following new subsection:*

5        *"(e) In carrying out the provisions of this Act the Sec-*  
6    *retary shall have all of the authority conferred upon him by*  
7    *the Act entitled 'An Act to facilitate and simplify the work*  
8    *of the Forest Service', approved January 31, 1931."*



77TH CONGRESS  
2D Session

**S. 2775**

[Report No. 1607]

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## **A BILL**

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To amend the Act of March 5, 1942, relating to the planting of guayule and other rubber-bearing plants.

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By Mr. DOWNER

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SEPTEMBER 14, 1942

Read twice and referred to the Committee on Military Affairs

SEPTEMBER 17, 1942

Reported with an amendment

Sept. 21



ties of this agency of the Federal Government and upon its sound supervisory influence over the 13,500 insured banks of the country.

It is encouraging, indeed, to note among the conclusions of the Corporation's Chairman, Leo T. Crowley, that—

Depositors throughout the country have every reason today for confidence in the soundness of the American banking system. The banks have today fewer criticized assets than at any other time in their history. They consequently are in an excellent position to lend vigorous support to financing the war effort.

Through June 30, 1942, 381 insured banks, having 1,247,638 depositors with total deposits of \$479,497,000, had been liquidated or merged with the aid of loans from Federal Deposit Insurance Corporation. Deposits amounting to \$468,781,000, or 97.8 percent of the total deposits in these banks, were made available promptly without loss to the depositors. Only 1,952 of the 1,247,638 depositors, or less than two-tenths of 1 percent, held accounts in excess of \$5,000 and were not completely protected.

Performance of this sort by the Corporation has been perhaps the most effective stabilizing factor for our financial system in the last decade. The confidence inspired in bank depositors by the mere existence of a sizable insurance fund to protect them from loss is undoubtedly great. Knowledge that the financial strength of Federal Deposit Insurance Corporation is reinforced and husbanded through careful administration and through careful supervision of the affairs of insured institutions makes our people doubly confident of their security and so makes our financial system more stable and effective.

It is gratifying as well as significant to learn that this complete protection of depositors in the country's banks during the past 8½ years has been accomplished simultaneously with the regular growth of capital and surplus within the Corporation. On June 30, 1942, capital and surplus of F. D. I. C. amounted to about \$584,000,000. Surplus accumulated during the entire period of F. D. I. C. operations was about \$294,600,000 on that date, a figure \$4,400,000 in excess of the entire assessments collected from insured banks since deposit insurance began. In other words, all deposit insurance losses and expenses as well as all administrative expenses of the Corporation have thus far been more than covered by the Corporation's interest and profits on its investments.

Chairman Crowley sees no potential drains upon the Corporation's funds in the near future. He proposes, though, to continue accumulating reserves for the Corporation through assessment upon insured banks at the present legally prescribed rate until the effects of post-war readjustment upon the banks are known.

In such parlous times as these it is good to know that factors so vital to our national welfare as the soundness of our banking system and the safety of bank deposits are receiving the unremitting attention of a strong, well administered, eminently successful Federal agency.

The ACTING PRESIDENT pro tempore. Routine morning business is concluded.

#### PLANTING OF GUAYULE AND OTHER RUBBER-BEARING PLANTS

Mr. DOWNEY. Mr. President, one of the imperative recommendations of the Baruch rubber committee was that the guayule rubber-growing program should have its acreage expanded. That recommendation is supported by the President, by the War Production Board, by the Department of Agriculture, and, I think, by all other governmental agencies. In conformity with that recommendation, last week the Military Affairs Committee favorably reported Senate bill 2775. I now ask unanimous consent for the present consideration of the bill.

The ACTING PRESIDENT pro tempore. The bill will be stated by title for the information of the Senate.

The LEGISLATIVE CLERK. A bill (S. 2775) to amend the act of March 5, 1942, relating to the planting of guayule and other rubber-bearing plants.

The ACTING PRESIDENT pro tempore. Is there objection to the request of the Senator from California?

There being no objection, the Senate proceeded to consider the bill, which had been reported from the Committee on Military Affairs with an amendment, to strike out all after the enacting clause and insert:

That paragraph (2) of the first section of the act entitled "An act to provide for the planting of guayule and other rubber-bearing plants and to make available a source of crude rubber for emergency and defense uses", approved March 5, 1942, is amended by striking out the word "seventy-five" and inserting in lieu thereof the words "five hundred"; and by striking out the words "and land for nurseries" before the semicolon at the end of such paragraph and inserting in lieu thereof the following: "land for nurseries and administrative sites, and water rights."

SEC. 2. Paragraph (3) of the first section of such act is amended by inserting after the first semicolon the following: "to acquire water rights; to erect necessary buildings on leased land where suitable land cannot be purchased;"

SEC. 3. Paragraph (4) of the first section of such act is amended by inserting after the first semicolon the following: "to purchase guayule shrub;"

SEC. 4. Paragraph (8) of the first section of such act is amended by striking out the words "of seventy-five" and inserting in lieu thereof the words "not in excess of 500."

SEC. 5. Section (2) (a) of such act is amended by inserting after the words "citizens of" the word "other"; and by striking out the words "in the Western Hemisphere."

SEC. 6. Section 2 of such act is amended by adding at the end thereof the following new subsection:

"(e) In carrying out the provisions of this act the Secretary shall have all of the authority conferred upon him by the act entitled 'An act to facilitate and simplify the work of the Forest Service,' approved January 31, 1931."

Mr. DOWNEY. Mr. President, the bill has three or four rather inconsequential perfecting amendments. The major objective sought to be reached by the bill is to increase the potential acreage from 75,000 to 500,000 acres, in the discretion of the Department of Agriculture. One

reason the change is made is that, strangely enough, the yield of seeds from the guayule plant was eight times what we had anticipated, which permits a greatly expanded program. It is the desire of the governmental agencies to take advantage of that possibility and to plant a larger acreage.

I submit the question upon that statement, and ask that the bill be passed.

The ACTING PRESIDENT pro tempore. The question is on agreeing to the amendment reported by the committee.

The amendment was agreed to.

The bill was ordered to be engrossed for a third reading, read the third time, and passed.

#### STABILIZATION OF THE COST OF LIVING

Mr. BARKLEY. Mr. President, I ask unanimous consent that the Senate proceed to the consideration of Senate Joint Resolution 161.

The ACTING PRESIDENT pro tempore. The joint resolution will be stated by title for the information of the Senate.

The LEGISLATIVE CLERK. A joint resolution (S. J. Res. 161) to aid in stabilizing the cost of living.

The ACTING PRESIDENT pro tempore. Is there objection to the request of the Senator from Kentucky?

There being no objection, the Senate proceeded to consider the joint resolution, which had been reported from the Committee on Banking and Currency with amendments.

Mr. BARKLEY. Mr. President, I ask unanimous consent that the formal reading of the joint resolution be dispensed with, that it be read for amendment, and that the amendments of the committee be first considered.

The ACTING PRESIDENT pro tempore. Is there objection to the request of the Senator from Kentucky? The Chair hears none, and it is so ordered.

Mr. BROWN. Mr. President, I should like to make a brief statement. Let me say to the Senate that, if I can proceed without interruption until 5 or 10 minutes after 1 o'clock, I think I can give a brief over-all picture. Then I shall be pleased to answer any questions with respect to the bill that may be propounded to me.

In the committee all of us strove as mightily as we could to expedite consideration of the joint resolution. On this highly important measure we spent 2 days in public hearings and 2½ days more in executive consideration. The House greatly expedited consideration by eliminating public hearings altogether. The Senator from New York [Mr. WAGNER], chairman of our committee, invited Members of the House to attend our hearings, and they did so. A great many Senators took advantage of the opportunity to attend the hearings, and some of them participated in questioning the witnesses.

I say this because I realize the necessity for very prompt consideration. I myself refrained from asking, as I recall, more than half a dozen questions or so during the hearing. I think everyone rather thoroughly understands the need and necessity for some action at the pres-



ent time. So far as I can gather, outside the consideration, perhaps, of two rather important amendments, or possibly three, there is not much disagreement about the measure. Of course, it is not written in exactly the way that this Senator or that Senator would like it written; but I think it rather well covers the general subject matter, and I think it does substantially what the President has asked.

There is no question in my mind that the Price Control Act and the pending measure, which is in substance an amendment to the Price Control Act, are by no means the only weapons necessary to combat rising costs of living. The tax bill is just as important, if not more important, in taking care of the subject of inflation. We have heard a great deal about the inflationary gap. I shall skip details, and shall give a brief analysis in the shape of five figures, two of them on the debit side and three of them on the credit side, which show what the inflationary gap is.

The inflationary gap is the amount of money which will be available for purchase of goods in excess of the supply of such goods. This is regarded by the economists, the Treasury, the Office of Price Administration, and the Department of Agriculture as the real inflation danger. It is the dammed-up purchasing power which endangers the price-control structure. It is now estimated that the national income for the calendar year 1942 will be in the neighborhood of from \$113,000,000,000 to \$115,000,000,000.

The only taxes which can be considered as a reduction of that purchasing power are the taxes paid by individuals. The taxes paid by corporations are production taxes; they are not taxes which are to be deducted from the income which individuals receive. So there will be a total of approximately \$35,000,000,000 of taxes, on the basis of State, local, and county taxes as they now are, and on the basis of the tax bill as it now stands in the Senate; but of that sum, only \$6,000,000,000 will be paid by individuals and will be deducted from their individual incomes. So I am reliably informed that the first item to stand against the \$115,000,000,000 of individual incomes in the United States, which is the basis of purchasing power, is the \$6,000,000,000 of individual income taxes.

Savings, which include the items of purchase of Government bonds, individual savings, purchases of insurance, and the payment of debts—and the President estimated that debt payments will amount to approximately \$4,000,000,000, which, of course, is a highly deflationary figure—total \$24,000,000,000. I am advised by the economists to whom I have alluded that that \$24,000,000,000 may be deducted along with the \$6,000,000,000.

It is further estimated that at the present level of supplies there will be \$65,000,000,000 worth of goods for consumers to buy on the basis prices under the general maximum price regulation. Those are the goods which will be bought by consumers—food, clothing, and all the things which consumers will buy, things which we as individuals require.

On the other side of the ledger there is a total of \$85,000,000,000, which, as will

be seen, leaves a gap of between \$18,000,000,000 and \$20,000,000,000 as the amount of money which will be available to individuals in the United States to spend, but for which no goods will be available for purchase. I hope I have made the matter plain; I have tried to state it as clearly as possible.

The gap of between \$18,000,000,000 and \$20,000,000,000 is the sum of money which the Secretary of the Treasury is hopeful he may find some means of reaching by way of compulsory savings and other means. It is the overwhelming danger in the picture.

I am advised by those in charge of price control that, although they feel that the enactment of the proposed legislation would give the President authority to maintain prices of goods substantially as they are, they desire it to be known that, in view of this pent-up purchasing power, it will not be possible to stop all price rises now. There is no question in my mind, from some study on the subject, that prices must be permitted to go a bit higher because of the necessities of the situation.

I hope the discretion in that respect will be left with the President of the United States. In the pending measure we have provided certain guideposts and directions; but there is no doubt that the farm labor situation, and possibly the situation with respect to labor in some other fields in the economic picture, will require some readjustment of prices. I should not want the country to believe that either the Congress or the administration was satisfied that we can now stabilize prices absolutely at their present level. I am reliably informed that it is hoped with some confidence by those in charge or who will be in charge of the administration of the measure, that rises of from 3 percent to 5 percent should be the limit. If we can do that we shall have accomplished a marvelous work in meeting the threatened rise of prices throughout the United States. I shall not go into detail as to how much food costs have risen, or how much costs have risen with respect to uncontrolled prices.

Mr. McNARY. Mr. President, will the Senator yield?

Mr. BROWN. I yield to the Senator from Oregon.

Mr. McNARY. I hesitate to interrupt the remarks of the able Senator unless it is with his consent.

I was attracted by the statement he made that, in his opinion, prices would not increase more than 5 percent. In what length of time would that be?

Mr. BROWN. I want the Senator to be sure to say that I said they hoped they would not increase more than from 3 to 5 percent, and that that hope was based upon some confidence.

Mr. McNARY. Yes; and let us confine the expression to the word "hope" only, rather than to anything final.

Mr. BROWN. Yes.

Mr. McNARY. How long may that hope continue?

Mr. BROWN. At the time when the price-control bill was passed it was my judgment that rises could be kept within a limit of approximately from 1 to 1½

percent a month, and that was the judgment of the senior Senator from Ohio [Mr. TAFT], who agreed with me in that respect. Based upon my own knowledge, and not quoting the Price Administration in that respect, I should think that if we maintained prices at levels not to exceed 5 percent of present levels for the ensuing year—let us say until December 1943—that would be an achievement. I should not want to predict beyond that time.

Mr. McNARY. Precisely—a very great achievement.

Let me ask a further question. Does that increase of 5 percent as a maximum include increases in farm prices and wages?

Mr. BROWN. We are talking about the cost of living.

Mr. McNARY. Yes; I am, too.

Mr. BROWN. That is the figure, and it seems to me that it covers both farm prices and wages.

Mr. McNARY. So the 5 percent increase as a prophecy includes both farm prices and wages, does it?

Mr. BROWN. Yes; I think so—their effect on the cost of living.

Mr. President, with that brief explanation of the fundamental economics of the situation, I was about to give a statement of the over-all difference between controlled prices and uncontrolled prices. I know that will be the subject of considerable argument later in the debate; but I give the facts as they are presented to us by the Office of Price Administration. Controlled prices from May 15 to August 15 have been held down practically at a level; they have not increased; in fact, there has been a decrease of three-tenths of 1 percent. In the case of uncontrolled food prices—and let it be admitted here that the fact is that they are not controlled not entirely due to a lack of legal authority to control prices—it has been necessary to go beyond the floor, so-called, in some instances. The increase has been substantially 10 percent from May 15 to August 15. That shows the trend, and it is undoubtedly the reason why it is felt by those in charge of the program that we should eliminate the limitations upon the power of the Price Administrator contained in section 3 of the Price Control Act.

Mr. AIKEN. Mr. President—

The ACTING PRESIDENT pro tempore. Does the Senator from Michigan yield to the Senator from Vermont?

Mr. BROWN. I yield.

Mr. AIKEN. In regard to the increase in the price of uncontrolled products, is it not true that the increase has been due partly to the deliberate bidding up of prices by the Federal Government itself in order to secure production? Is it not particularly true in the case of dairy products that the Federal Government deliberately boosted the price of butter because it was not getting enough at the regular prices?

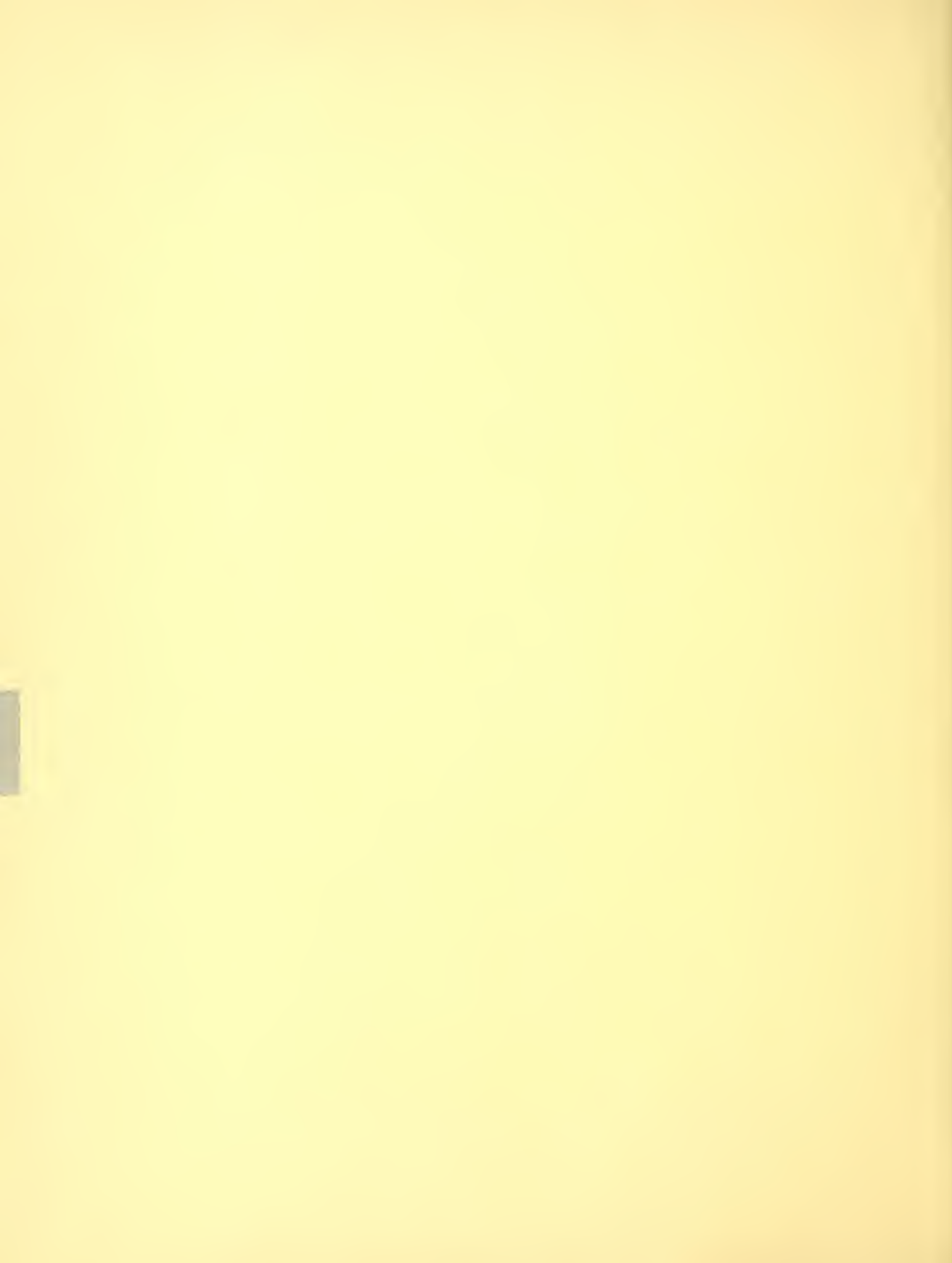
Mr. BROWN. Yes; I assume that may be true.

Mr. AIKEN. That is not due to any lack of authority to control?

Mr. BROWN. Perhaps not. The price control law contains in its directions to the Price Administrator and to the Sec-







77<sup>TH</sup> CONGRESS  
2<sup>D</sup> SESSION

# S. 2775

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IN THE HOUSE OF REPRESENTATIVES

SEPTEMBER 22, 1942

Referred to the Committee on Agriculture

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## AN ACT

To amend the Act of March 5, 1942, relating to the planting of guayule and other rubber-bearing plants.

1       *Be it enacted by the Senate and House of Representa-*  
2       *tives of the United States of America in Congress assembled,*  
3       That paragraph (2) of the first section of the Act entitled  
4       “An Act to provide for the planting of guayule and other  
5       rubber-bearing plants and to make available a source of crude  
6       rubber for emergency and defense uses”, approved March 5,  
7       1942, is amended by striking out the word “seventy-five” and  
8       inserting in lieu thereof the words “five hundred”; and by  
9       striking out the words “and land for nurseries” before the

1 semicolon at the end of such paragraph and inserting in lieu  
2 thereof the following: "land for nurseries and administrative  
3 sites, and water rights".

4 SEC. 2. Paragraph (3) of the first section of such  
5 Act is amended by inserting after the first semicolon the fol-  
6 lowing: "to acquire water rights; to erect necessary buildings  
7 on leased land where suitable land cannot be purchased;".

8 SEC. 3. Paragraph (4) of the first section of such Act is  
9 amended by inserting after the first semicolon the following:  
10 "to purchase guayule shrub;".

11 SEC. 4. Paragraph (8) of the first section of such Act  
12 is amended by striking out the words "of seventy-five" and  
13 inserting in lieu thereof the words "not in excess of five  
14 hundred".

15 SEC. 5. Section 2 (a) of such Act is amended by insert-  
16 ing after the words "citizens of" the word "other"; and by  
17 striking out the words "in the Western Hemisphere".

18 SEC. 6. Section 2 of such Act is amended by adding at  
19 the end thereof the following new subsection:

20 "(e) In carrying out the provisions of this Act the Sec-  
21 retary shall have all of the authority conferred upon him by

- 1 the Act entitled 'An Act to facilitate and simplify the work
- 2 of the Forest Service', approved January 31, 1931."

Passed the Senate September 21, 1942.

Attest:

EDWIN A. HALSEY,

*Secretary.*

By JOHN C. CROCKETT,

*Chief Clerk.*



77TH CONGRESS  
2d Session

**S. 2775**

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## **AN ACT**

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To amend the Act of March 5, 1942, relating to the planting of guayule and other rubber-bearing plants.

SEPTEMBER 22, 1942

Referred to the Committee on Agriculture





## GUAYULE AND OTHER RUBBER-BEARING PLANTS

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OCTOBER 6, 1942.—Committed to the Committee of the Whole House on the state of the Union and ordered to be printed

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MR. FULMER, from the Committee on Agriculture, submitted the following

### REPORT

[To accompany S. 2775]

The Committee on Agriculture, to whom was referred the bill (S. 2775) to amend the act of March 5, 1942, relating to the planting of guayule and other rubber-bearing plants, having considered the same, report thereon with a recommendation that it do pass, with the following amendments:

Page 3, at the end of section 6 add the following new wording:

(f) The Secretary may lease at reasonable rentals structures erected by the Government with essential facilities for such periods as such structures and facilities are not required for the purposes of this Act; and any part of land or structures with essential facilities acquired by lease, deed, or other agreement pursuant to this Act, which are not required or suitable for the purposes of the Act during the period the United States is entitled to possession thereof may be leased or subleased at a reasonable rental; and any surplus water controlled by the United States on land owned or leased by the United States for the purposes of this Act may be disposed of at reasonable rates.

Page 2, line 19, change the word "subsection" to "subsections".

Page 6, add a new section, to read as follows:

SEC. 7. Section 2 (a) of such Act is amended by inserting after the words "as amended," the following new wording: "(Sections 321 to 324 inclusive, and section 325a of title 40 of the United States Code (1940 edition) shall not apply to any nursery, planting, cultivating or harvesting operations conducted pursuant to this Act.)"

Following is shown a letter from the Acting Secretary of Agriculture which sets forth the purposes of this legislation and which recommends its passage:

OCTOBER 3, 1942.

HON. H. P. FULMER,  
*Chairman, Committee on Agriculture,  
House of Representatives.*

DEAR MR. FULMER: Reference is made to your letter of September 18 requesting a report on H. R. 7549, a bill to amend the act of March 5, 1942, relating to the planting of guayule and other rubber-bearing plants.

During the summer of 1942 an extremely large supply of guayule seed was gathered from field plantings in California. Instead of an anticipated 20,000 pounds sufficient only to resow the present nurseries at Salinas, some 132,000 pounds of seed soon will be collected. This seed supply provides an opportunity for a greatly expanded program. The total acreage that may be planted from the seed supply is approximately 176,000 acres. Seedlings now available for transplanting from nurseries this fall added to the potential crop from the seed on hand will be sufficient to plant approximately 207,000 acres.

The potential volume of rubber that may be produced with this planting material is estimated to be about 80,000 short tons. The seedlings now growing in nurseries for early transplanting will produce approximately 13,280 tons. Harvesting and extraction of rubber from these plants will begin late in 1944. The present seed supply is the potential source of the remainder of the tonnage. If the seed is sown in nurseries next spring the subsequent guayule crop planted in the winter of 1943-44 will be available for harvest in the fall of 1945. However, it is possible by establishing new nurseries in the fall of 1942 to sow almost one-third of the seed crop at once, and increase plantings by some 56,000 acres in the spring of 1943. The effect of this procedure will be to make available some 33,400 tons of rubber beginning in the fall of 1944 instead of 13,280 tons which normally would be expected.

The accelerating of rubber production by immediately installing nurseries has been requested by the War Production Board. The recent report to the President of the Special Committee to Study the Rubber Situation strongly endorses an expanded guayule program. The Committee also recommends prompt removal of the planting limitation of 75,000 acres. The purpose of H. R. 7549 is to remove this limitation.

If plantings under the guayule program are to go forward as fully as possible during this fiscal year, it is necessary that the 75,000-acre planting limitation be removed. This Department is fully in accord with the purpose of H. R. 7549. However, it would be agreeable to the Department to have a new limit of 500,000 acres if your committee prefers to retain an acreage limit, as was done in the companion bill (S. 2775) in the Senate. Such a limitation will give us adequate leeway for the present. On the basis of harvesting after 2 years of growth in irrigated field plantations, 500,000 acres is sufficient land to permit annual plantings of the same size as that which may now be undertaken with the present supply of seed and seedlings.

Several amendments to the act of March 5, 1942, are desirable to facilitate the administration of the guayule program. It is desirable that authority to acquire water rights for essential needs be provided. The acquisition of such rights may be a transaction entirely independent from that of acquiring rights to land, which is now authorized.

Authority to purchase land for administrative sites and to erect nursery buildings on leased land when purchase of land for such a purpose proves impracticable is necessary for the proper administration of the nursery and field planting programs. The wording of the act as now written provides only for purchase of lands for nurseries and for factory sites. Field headquarters for administering the large areas of plantations will be essential. It is anticipated that in many instances farmers will object to selling land needed for structures required in the administration of field plantations as the sale of land for this purpose would remove small segments of the farmer's land from his possession. For this reason the erection of necessary structures on leased land adjacent to plantations will become essential to proper operation of the planting program.

There has been opportunity already to sublease to farmers odd corners of leased land not usable for guayule operations and to rent Government-owned structures for short periods when the use of these structures is not required due to seasonal



fluctuations of the work program. Authority to rent land and structures when practicable will provide a small amount of revenue and locally will aid in the production of other agricultural crops.

Authority to purchase shrub will permit the acquisition of wild shrub which may prove useful in providing rubber until such time as guayule from the cultivated plantations is ready for harvest.

It is desired that the employment of aliens not be restricted to citizens of countries of the Western Hemisphere. In view of the labor shortage, or in order to acquire special skills, the employment of citizens of other countries may be essential.

A considerable amount of equipment will be rented under contract from farmers. It is inevitable that a certain amount of damage will result to such equipment. Authority to provide for direct settlement for damages will facilitate the rental of farmers' equipment.

There follow suggested amendments to the act of March 5, 1942, to give effect to the foregoing proposals. They will provide for more efficient administration of the programs carried out under the act in connection with the circumstances discussed herein:

"That paragraph (2) of the first section of the Act entitled 'An Act to provide for the planting of guayule and other rubber-bearing plants and to make available a source of crude rubber for emergency and defense uses,' approved March 5, 1942, is amended by striking out the word 'seventy-five' and inserting in lieu thereof the words 'five hundred'; and by striking out the words 'and land for nurseries' before the semicolon at the end of such paragraph and inserting in lieu thereof the following: 'land for nurseries and administrative sites and water rights'.

"Sec. 2. Paragraph (3) of the first section of such Act is amended by inserting after the first semicolon the following: 'to acquire water rights; to erect necessary buildings on leased land where suitable land cannot be purchased;'

"Sec. 3. Paragraph (4) of the first section of such Act is amended by inserting after the first semicolon the following: 'to purchase guayule shrub;'

"Sec. 4. Paragraph (8) of the first section of such Act is amended by striking out the words 'of seventy-five' and inserting in lieu thereof the words 'not in excess of five hundred.'

"Sec. 5. Section 2 (a) of such Act is amended by inserting after the words 'citizens of' the word 'other'; and by striking out the words 'in the Western Hemisphere.'

"Sec. 6. Section 2 of such Act is amended by adding at the end thereof the following two new subsections:

"(c) In carrying out the provisions of this Act the Secretary shall have all of the authority conferred upon him by the Act entitled "An Act to facilitate and simplify the work of the Forest Service," approved January 31, 1931.

"(f) The Secretary may lease at reasonable rentals structures erected by the Government with essential facilities for such periods as such structures and facilities are not required for the purposes of this Act; and any part of land or structures with essential facilities acquired by lease, deed, or other agreement pursuant to this Act, which are not required or suitable for the purposes of the Act during the period the United States is entitled to possession thereof may be leased or subleased at a reasonable rental; and any surplus water controlled by the United States on land owned or leased by the United States for the purposes of this Act may be disposed of at reasonable rates.'"

The Department recommends that the bill be amended as suggested above and urges that prompt consideration be given this legislation in order that the program as recommended by the War Production Board and the Baruch Committee may be successfully executed.

The Bureau of the Budget advises that it has no objection to the submission of this report.

Sincerely yours,

GROVER B. HILL,  
*Acting Secretary.*

## CHANGES IN EXISTING LAW

In compliance with paragraph 2a of Rule XIII of the Rules of the House of Representatives, changes in existing law made by the bill, as reported, are shown as follows (existing law proposed to be omitted is enclosed in black brackets, new matter is printed in italics, existing law in which no change is proposed is shown in roman):

[PUBLIC LAW 473—77TH CONGRESS]

[CHAPTER 140—2D SESSION]

[S. 2282]

AN ACT To provide for the planting of guayule and other rubber-bearing plants and to make available a source of crude rubber for emergency and defense uses

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled*, That the Secretary of Agriculture (hereinafter called the "Secretary") is authorized—

(1) To acquire by purchase, license, or other agreement, the right to operate under processes or patents relating to the growing and harvesting of guayule or the extraction of rubber therefrom, and such properties, processes, records, and data as are necessary to such operation, including but not limited to any such rights owned or controlled by the Intercontinental Rubber Company, or any of its subsidiaries, and all equipment, materials, structures, factories, real property, seed, seedlings, growing shrub, and other facilities, patents and processes of the Intercontinental Rubber Company, or any of its subsidiaries, located in California, and for such rights, properties, and facilities of the Intercontinental Rubber Company or any of its subsidiaries, the Secretary is authorized to pay not to exceed \$2,000,000;

(2) To plant, or contract for the planting of, not in excess of **[seventy-five]** *five hundred* thousand acres of guayule in areas in the Western Hemisphere where the best growth and yields may be expected in order to maintain a nucleus planting of guayule to serve as a domestic source of crude rubber as well as of planting material for use in further expending guayule planting to meet emergency needs of the United States for crude rubber; to establish and maintain nurseries to provide seedlings for field plants; and to purchase necessary equipment, facilities, **[and land for nurseries;]** *lands for nurseries and administrative sites, and water rights;*

(3) To acquire by lease, or other agreement, for not exceeding ten years, rights to land for the purpose of making plantings of guayule; *to acquire water rights; to erect necessary buildings on leased land where suitable land cannot be purchased;* to make surveys, directly or through appropriate Government agencies, of areas in the Western Hemisphere where guayule might be grown; and to establish and maintain records indicating areas to which guayule cultivation could be extended for emergency production;

(4) To construct or operate, or to contract for the operation of, factories for the extraction of rubber from guayule, and from *Chrysothamnus*, commonly known as rabbit brush; *to purchase guayule shrub;* and to purchase, operate, and maintain equipment for the harvesting, storing, transporting, and complete processing of guayule, and *Chrysothamnus*, commonly known as rabbit brush, and to purchase land as sites for processing plants;

(5) To conduct studies, in which he may cooperate with any other public or private agency, designed to increase the yield of guayule by breeding or by selection, and to improve planting methods; to make surveys of areas suitable for cultivating guayule; to make experimental plantings; and to conduct agronomic tests;

(6) To conduct tests, in which he may cooperate with any other public or private agency, to determine the qualities of rubber obtained from guayule and to determine the most favorable methods of compounding and using guayule in rubber manufacturing processes;

(7) To improve methods of processing guayule shrubs and rubber and to obtain and hold patents on such new processes;

(8) To sell guayule or rubber processed from guayule and to use funds so obtained in replanting and maintaining an area of [seventy-five] *not in excess of five hundred* thousand acres of guayule inside the Western Hemisphere; and

(9) To exercise with respect to rubber-bearing plants other than guayule the same powers as are granted in the foregoing provisions of this section with respect to guayule.

SEC. 2. (a) The Secretary is authorized to appoint such employees, including citizens of *other countries* [in the Western Hemisphere,] as may be necessary for carrying out the provisions of this Act. Such appointments may be made without regard to the provisions of the civil-service laws, and the compensation of the persons so appointed may be fixed without regard to the provisions of the Classification Act of 1923, as amended. (*Sections 321 to 324, inclusive, and section 325a of Title 40 of the United States Code (1940 Edition) shall not apply to any nursery, planting, cultivating, or harvesting operations conducted pursuant to this Act.*)

All appointments so made by the Secretary shall be made only on the basis of merit and efficiency.

(b) The Secretary may delegate any of the powers and duties conferred on him by this Act to any agency or bureau of the Department of Agriculture.

(c) The Secretary, with the consent of any board, commission, independent establishment, corporation, or executive department of the Government, including any field service thereof, may avail himself of the use of information, services, facilities, officers, and employees thereof, in carrying out the provisions of this Act.

(d) The Secretary may allot to bureaus and offices of the Department of Agriculture, or may transfer to such other agencies of the State and Federal Governments as may be requested by him to assist in carrying out this Act, any funds made available to him under this Act.

(e) *In carrying out the provisions of this Act the Secretary shall have all of the authority conferred upon him by the Act entitled 'An Act to facilitate and simplify the work of the Forest Service', approved January 31, 1931.*

(f) *The Secretary may lease at reasonable rentals structures erected by the Government with essential facilities for such periods as such structures and facilities are not required for the purposes of this Act; and any part of land or structures with essential facilities acquired by lease, deed, or other agreement pursuant to this Act, which are not required or suitable for the purposes of the Act during the period the United States is entitled to possession thereof may be leased or subleased at a reasonable rental; and any surplus water controlled by the United States on land owned or leased by the United States for the purposes of this Act may be disposed of at reasonable rates.*





Union Calendar No. 908

77<sup>TH</sup> CONGRESS  
2<sup>D</sup> SESSION

**S. 2775**

[Report No. 2517]

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IN THE HOUSE OF REPRESENTATIVES

SEPTEMBER 22, 1942

Referred to the Committee on Agriculture

OCTOBER 6, 1942

Reported with amendments, committed to the Committee of the Whole House  
on the state of the Union, and ordered to be printed

[Omit the part struck through and insert the part printed in italic]

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**AN ACT**

To amend the Act of March 5, 1942, relating to the planting of  
guayule and other rubber-bearing plants.

1       *Be it enacted by the Senate and House of Representa-*  
2       *tives of the United States of America in Congress assembled,* .  
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7       1942, is amended by striking out the word “seventy-five” and  
8       inserting in lieu thereof the words “five hundred”; and by  
9       striking out the words “and land for nurseries” before the  
10      semicolon at the end of such paragraph and inserting in lieu



1 thereof the following: "land for nurseries and administrative  
2 sites, and water rights".

3 SEC. 2. Paragraph (3) of the first section of such  
4 Act is amended by inserting after the first semicolon the fol-  
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13 hundred".

14 SEC. 5. Section 2 (a) of such Act is amended by insert-  
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16 striking out the words "in the Western Hemisphere".

17 SEC. 6. Section 2 of such Act is amended by adding at  
18 the end thereof the following new ~~subsection~~ subsections:

19 "(e) In carrying out the provisions of this Act the Sec-  
20 retary shall have all of the authority conferred upon him by  
21 the Act entitled 'An Act to facilitate and simplify the work  
22 of the Forest Service', approved January 31, 1931."

23 (f) *The Secretary may lease at reasonable rentals struc-*  
24 *tures erected by the Government with essential facilities for*  
25 *such periods as such structures and facilities are not required*

1 *for the purposes of this Act; and any part of land or struc-*  
2 *tures with essential facilities acquired by lease, deed, or other*  
3 *agreement pursuant to this Act, which are not required or*  
4 *suitable for the purposes of the Act during the period the*  
5 *United States is entitled to possession thereof may be leased*  
6 *or subleased at a reasonable rental; and any surplus water*  
7 *controlled by the United States on land owned or leased by*  
8 *the United States for the purposes of this Act may be disposed*  
9 *of at reasonable rates.*

10 *SEC. 7. Section 2 (a) of such Act is amended by in-*  
11 *serting after the words "as amended." the following new*  
12 *wording: "(Sections 321 to 324, inclusive, and section 325a*  
13 *of title 40 of the United States Code (1940 edition), shall*  
14 *not apply to any nursery, planting, cultivating or harvesting*  
15 *operations conducted pursuant to this Act.)"*

Passed the Senate September 21, 1942.

Attest:

EDWIN A. HALSEY,

*Secretary.*

By JOHN C. CROCKETT,

*Chief Clerk.*

77TH CONGRESS  
2d Session

**S. 2775**

[Report No. 2517]

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## **AN ACT**

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To amend the Act of March 5, 1942, relating to the planting of guayule and other rubber-bearing plants.

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SEPTEMBER 22, 1942

Referred to the Committee on Agriculture

OCTOBER 6, 1942

Reported with amendments, committed to the Committee of the Whole House on the state of the Union, and ordered to be printed







Vernon I. Richard, to be examiner in chief, Board of Appeals, United States Patent Office; and

Ernest F. Klinge, to be examiner in chief, Board of Appeals, United States Patent Office.

The VICE PRESIDENT. If there be no further reports of committees, the clerk will state the nominations on the calendar.

#### DIPLOMATIC AND FOREIGN SERVICE

The legislative clerk read the nomination of George Wadsworth, of New York, to act as diplomatic agent and consul general of the United States of America near the Government of the Republic of Lebanon, at Beirut, and near the Government of the Republic of Syria, at Damascus.

The VICE PRESIDENT. Without objection, the nomination is confirmed.

#### POSTMASTERS

The legislative clerk proceeded to read sundry nominations of postmasters.

Mr. McKELLAR. I ask that the nominations of postmasters be confirmed en bloc.

The VICE PRESIDENT. Without objection, the postmaster nominations are confirmed en bloc.

#### THE NAVY

The legislative clerk read the nomination of John H. Towers, to be vice admiral for temporary service, to rank from October 6, 1942.

Mr. WALSH. I ask that the nomination be confirmed.

The VICE PRESIDENT. Without objection, the nomination is confirmed.

The legislative clerk read the nomination of John S. McCain, to be Chief of the Bureau of Aeronautics, with the rank of rear admiral, for a term of 4 years, effective upon the relinquishment of that office by Rear Admiral John H. Towers.

Mr. WALSH. I ask that the nomination be confirmed.

The VICE PRESIDENT. Without objection, the nomination is confirmed.

#### THE MARINE CORPS

The legislative clerk proceeded to read sundry nominations in the Marine Corps.

Mr. WALSH. I ask that the nominations in the Marine Corps be confirmed en bloc.

The VICE PRESIDENT. Without objection, the Marine Corps nominations are confirmed en bloc.

That completes the calendar.

Mr. BARKLEY. I ask that the President be immediately notified of all nominations this day confirmed.

The VICE PRESIDENT. Without objection, the President will be notified forthwith.

#### RECESS

Mr. BARKLEY. As in legislative session, I move that the Senate take a recess until 11 o'clock tomorrow.

The motion was agreed to; and (at 4 o'clock and 56 minutes p. m.) the Senate took a recess until tomorrow, Friday, October 9, 1942, at 11 a. m.

#### NOMINATIONS

Executive nominations received by the Senate October 8 (legislative day of October 5), 1942:

APPOINTMENTS IN THE ARMY SPECIALIST CORPS  
Leland Grisler Gardner, executive officer, Legislative and Liaison Division, War Department, Special Staff, \$5,600.

Hugh McKittrick Jones, principal personnel procurement officer, field service, Seventh Service Command, Army Specialist Corps, \$5,600.

Melvin James Snyder, principal administrative officer, Engineer Corps, Services of Supply, New York, N. Y., \$5,600.

#### CONFIRMATIONS

Executive nominations confirmed by the Senate October 8 (legislative day of October 5), 1942:

#### DIPLOMATIC AND FOREIGN SERVICE

George Wadsworth, to act as diplomatic agent and consul general of the United States of America near the Government of the Republic of Lebanon, at Beirut, and near the Government of the Republic of Syria, at Damascus.

#### IN THE NAVY

##### PROMOTION IN THE TEMPORARY SERVICE

John H. Towers to be vice admiral for temporary service.

##### IN THE MARINE CORPS

##### PROMOTIONS IN THE TEMPORARY SERVICE, IN THE MARINE CORPS

##### To be major generals

Emile P. Moses  
Harry Schmidt  
Ralph J. Mitchell

##### To be brigadier generals

Earl C. Long  
Pedro A. del Valle  
Francis P. Mulcahy  
Louis E. Woods  
Field Harris

#### POSTMASTERS

##### CALIFORNIA

Gilbert G. Vann, Arbuckle.  
Jacob Golden Land, Feather Falls.  
Paul W. McGrorty, McCloud.  
John Carlos Rose, Milpitas.  
Robert L. Turner, Mojave.  
Julia M. Ruschin, Newark.  
Lindsey L. Burke, Norwalk.  
Charles A. Turner, Oceanside.  
Icy June Murphy, Project City.  
George H. Treat, San Andreas.  
Louis J. McNeill, Tuolumne.

##### KANSAS

Clarence O. Masterson, Wilmore.

##### MONTANA

Oren D. Clement, Livingston.

##### OREGON

Euna Pearl Burke, Astoria.  
Robert H. Fox, Bend.  
Glen C. Smith, Independence.  
Winifred G. Wisecarver, McMinnville.

#### DEPARTMENT OF THE NAVY

John S. McCain to be Chief of the Bureau of Aeronautics, with the rank of rear admiral, for a term of 4 years.



# House of Representatives

THURSDAY, OCTOBER 8, 1942

The House met at 12 o'clock noon.

The Chaplain, Rev. James Shera Montgomery, D. D., offered the following prayer:

O Lord God Almighty, help us to accept our task without bitterness or censure, to be grateful for all the privileges we enjoy, and to face our world with confidence and with an earnest spirit. We pray, dear Lord, for emancipation from everything that holds men down, from the bondage of matter, purifying our souls as a temple, for freedom from egotism, keeping before us the Christ, the One whose character is manhood in magnitude. Grant unto us the grace to know that life is a fleeting shadow and enable us to discern that the true realm is in the life of the immortal soul.

Open the hearts of all our people to be more bountiful, to spare themselves less and less for the sake of others. We pray that our country may set the example to all the world not only in generosity and outward prosperity but in justice and in national honor, in nobility and truth, so that the cause of this world may become the cause of our Nazarene Teacher. In His holy name. Amen.

## THE JOURNAL

The Journal of the proceedings of yesterday was read and approved.

## MESSAGE FROM THE SENATE

A message from the Senate, by Mr. Frazier, its legislative clerk, announced that the Senate agrees to the amendments of the House to bills of the Senate of the following titles:

S. 2275. An act to amend section 10 of Public Law No. 360, Seventy-seventh Congress, to grant national service life insurance in the cases of certain Army flying cadets and aviation students who died as the result of aviation accident in line of duty between October 8, 1940, and June 3, 1941;

S. 2471. An act to amend the act entitled "An act to prevent pernicious political activities," approved August 2, 1939, as amended, with respect to its application to officers and employees of educational, religious, eleemosynary, philanthropic, and cultural institutions, establishments, and agencies, commonly known as the Hatch Act;

S. 2655. An act to amend the Judicial Code to authorize the Chief Justice of the United States to assign circuit judges to temporary duty in circuits other than their own; and

S. 2679. An act to authorize the transportation of dependents and household effects of personnel of the Navy, Marine Corps, Coast Guard, and Coast and Geodetic Survey, incident to secret or confidential orders, and for other purposes.

The message also announced that the Vice President had appointed Mr. BARKLEY and Mr. BREWSTER members of the joint select committee on the part of the Senate, as provided for in the act of August 5, 1939, entitled "An act to provide for the disposition of certain records of

the United States Government," for the disposition of executive papers in the following departments and agencies:

1. Department of Agriculture.
2. Department of the Interior.
3. Department of the Navy.
4. Department of War.
5. Administrative Office of the United States Courts.
6. Federal Trade Commission.
7. The National Archives.

## GUAYULE RUBBER

Mr. FULMER. Mr. Speaker, I ask unanimous consent for the immediate consideration of the bill (S. 2775) to amend the act of March 5, 1942, relating to the planting of guayule and other rubber-bearing plants.

The Clerk read the title of the bill.

Mr. MICHENER. Mr. Speaker, reserving the right to object, will the gentleman explain the bill?

Mr. FULMER. May I state to the House that a representative of the Department came before our committee and stated that they were getting along nicely with this program but found they had about 32,000 pounds of seed instead of 20,000, and that therefore they needed additional acreage; so the bill carries a provision for 500,000 acres of land instead of 75,000, as originally provided for. It also carries a provision permitting them to buy nursery land and certain buildings in connection with the operation of the program. Practically all of this large acreage will be used under lease and utilize farmers and farm labor and machinery in that area to carry on the program.

Mr. KINZER. Mr. Speaker, will the gentleman yield?

Mr. MICHENER. I yield.

Mr. KINZER. The action of the committee on this measure was unanimous.

Mr. FULMER. Yes; that is true. They have had some labor trouble in carrying out the original program, especially with farmers, in that farmers under the California labor laws operate on a 10-hour day. We have amended this bill so as to eliminate that trouble.

Mr. MICHENER. This bill has passed the Senate.

Mr. FULMER. Yes.

Mr. MICHENER. And there are no House amendments except the one relating to labor.

Mr. FULMER. Just the amendment relating to labor, increased acreage, the right to buy administrative sites, and water rights.

Mr. MICHENER. Did the chairman of the Committee on Agriculture read the statement appearing in an Associated Press dispatch in yesterday's paper containing a speech made by Vice President

WALLACE in reference to the rubber situation in the United States?

Mr. FULMER. Yes; I read his speech.

Mr. MICHENER. Will this bill interfere with the program as outlined by the Vice President in connection with the production of rubber in this country?

Mr. FULMER. May I say to the gentleman from Michigan that this bill has nothing whatsoever to do with the matter about which Mr. WALLACE spoke; in other words, Mr. WALLACE was speaking about what might happen after the war. I understand he advocates going to other countries to get our rubber instead of producing it ourselves. This should be a matter for consideration after the war. What we should do is to produce all the rubber we can at this time from any source possible. I am hoping we will continue to produce rubber in this country after the war. The bottleneck we are now experiencing in the rubber situation was caused by our dependence on foreign sources for rubber instead of producing rubber in this country.

Mr. WOODRUFF of Michigan. Mr. Speaker, will the gentleman yield?

Mr. MICHENER. I yield.

Mr. WOODRUFF of Michigan. It seems to me, Mr. Speaker, we ought in every instance where possible to produce every strategic material necessary in time of war. If any country has ever had an example of the asininity of depending on countries on the other side of the world for things we must have in times of national emergency we have had it.

Mr. FULMER. I agree thoroughly with the statements and views of the gentleman. He will find that practically every major bottleneck we have had or that we are now having in connection with our war effort was brought about because of not doing the things we could have been doing in this country and because we permitted certain selfish groups to control the rubber business.

Mr. MICHENER. The reason I reserved the right to object was to air this matter a little. In the article to which I referred the Vice President makes it clear that after the war we must purchase as much as we can of rubber from other countries producing it. He does not seem to have the feeling that we should build up a permanent rubber industry at this time, that will compete with or interfere with the good-neighbor policy after the war. If this be true, I am wondering whether or not we are carrying out his theory by proceeding with the development of United States produced rubber in this country even for use during the war.

Mr. FULMER. I am very fearful that Mr. WALLACE is speaking the mind of a certain group who had had a monopoly



on the rubber proposition prior to the war and who are hell bent on going back to their first love after the war.

When certain witnesses appeared before our committee and we asked them why they did not do the job themselves instead of selling out to the Government, their reply was that the Government could do it better than they could. This is the first time I have ever heard a business concern make such a statement.

In the meantime I said, "We will go into this and spend a lot of money, but what about after the war?" "Oh, it will be out of the window then," was the reply. But I am hoping we will not only continue this program in growing this shrub but any other shrub that will produce rubber and that we will continue to produce synthetic rubber out of alcohol and any other products of this country from which we can produce rubber after the war.

Mr. TREADWAY. Will the gentleman yield?

Mr. FULMER. I yield to the gentleman from Massachusetts.

Mr. TREADWAY. The gentleman is speaking of not having done certain things that we ought to have done. Of course, this is not within the jurisdiction of his committee, but may I ask the gentleman, does he not believe that included in the category that he has referred to is the fact that we had shipped thousands of tons of scrap iron to Japan previously to the declaration of war and now are anxious to get some of our own?

Mr. FULMER. We could go into many of these problems. I had that up over 10 or 15 years ago. We reported a sugar bill some time ago and did not get anywhere. Now, we are rationing sugar. But that is all water over the dam. We have a bill here that we want to pass and whether I am in Congress or not I hope after this war that the people of this country will demand that we do those things that our people are capable of doing and taking care of the interests of this country instead of other countries.

Mr. JOHNSON of Illinois. Will the gentleman yield?

Mr. FULMER. I yield to the gentleman from Illinois.

Mr. JOHNSON of Illinois. Regarding the plan proposed by Mr. WALLACE as given in the press of yesterday and this morning, that is a long way off. He talks about developing plantations down in South America, but that is not going to get us rubber within the next couple of years. We have hope of getting considerable rubber from guayule that has been talked of for several years, and which was produced successfully for about 20 years, but they could not compete at times with the British and Dutch monopoly. I am for this bill because expert testimony before the committee indicates that because of a peculiar substance in the guayule, which can be taken out, it is ideally adapted for reclaimed rubber for recapping, and we are going to have to get along with a lot of reclaimed rubber for a long time.

Mr. SABATH. Will the gentleman yield?

Mr. FULMER. I yield to the gentleman from Illinois.

Mr. SABATH. Having favored this legislation, I would like to ask the chairman of the Committee on Agriculture a question. It has developed that they have produced more seed or plants than they originally anticipated?

Mr. FULMER. That is correct.

Mr. SABATH. It is for that purpose that additional money is required and additional acreage to plant the additional seed?

Mr. FULMER. That is correct.

Mr. SABATH. How much acreage is recommended or urged and how much more money is needed?

Mr. FULMER. The first bill provided for 75,000 acres. Under this bill we provide for 500,000 acres on the basis that they have instead of 20,000 pounds of seed about 132,000 pounds of seed with the prospect of getting a larger number of plants or seed from plants that they already have growing.

Mr. SABATH. Has there been any evidence introduced or that has come before the committee, or any information, relative to the Russian Government and that it has volunteered to submit to us and let us have their method of raising rubber, which was done about a year and a half ago, and nothing has been done about it in accepting the kind offer to aid us in the rubber situation?

Mr. FULMER. In connection with this program we bought out a corporation that had all of the inside secrets and information that were turned over to our Government for the purpose of breeding producing guayule plants.

Mr. SABATH. Is that the same plant they are growing in Russia, or is this the plant that they grow in Mexico?

Mr. FULMER. In California; and they are growing a lot of it in Mexico and some in the State of Texas. They are also planting seed produced in Russia as well as other plants.

Mr. SABATH. That is what I had in mind, whether it is the same plant that is growing in Mexico that they are growing in Russia or if the Russian plant has not perhaps proven to be a better rubber-producing plant than even the one that we have taken over.

Mr. FULMER. It is generally thought that the seed that we are now getting from Russia will produce really more rubber than the guayule plant.

Mr. SABATH. That has been my understanding, and I want to know why it had not been accepted years ago. If it had been, the chances are we could have been more advanced, and there would not be the shortage of rubber that exists now.

Mr. FULMER. May I state to the gentleman I referred to the fact a few moments ago that we have not been interested in doing those things in this country, because of the monopolistic controls of certain groups buying and importing cheap rubber. And millions have been spent in this country by our people, but out of all of the research and the money we have spent in this country, very little has been done by the departments or our people to produce rubber in this country.

Mr. RABAUT. Will the gentleman yield?

Mr. FULMER. I yield to the gentleman from Michigan.

Mr. RABAUT. As I understand it, the seed from our own plants are going to be used in the southern part of the country?

Mr. FULMER. That is right.

Mr. RABAUT. The Russian plant will grow farther north in this country?

Mr. FULMER. It will grow in several other States where other shrubs will not grow.

Mr. POAGE. Will the gentleman yield?

Mr. FULMER. I yield to the gentleman from Texas.

Mr. POAGE. I think it should be stated that the representative of the Department of Agriculture who appeared before our committee a couple of days ago told us that under the terms of this bill they will be able to experiment with our plant and seed and the seed that they can get from Russia. He said that they now have 7,000 pounds of seed of the kok-sagyz plant or Russian dandelion which they are now planning to put into the ground this season all along the northern border of the United States.

The terms of this bill will also enable them to engage in the planting of substantial quantities of goldenrod in the southeastern part of the United States. This bill not only covers guayule, of which we speak because we have more of it than of anything else, but the original legislation authorized and this bill authorizes an expansion of the growth of any of the rubber-producing plants, including the kok-sagyz and the goldenrod.

Mr. CRAWFORD. Mr. Speaker, will the gentleman yield?

Mr. FULMER. I yield to the gentleman from Michigan.

Mr. CRAWFORD. What program is being followed with reference to reducing the rubber from the juice that you take from this plant? Is the production of rubber from the juice that comes from this plant actually being worked into the rubber program along with this other synthetic operation?

Mr. FULMER. I am not sure just what they are doing along that special line, but we were told that within about a year, especially within 2 years, they would be producing a number of tons of rubber through the processing of this shrub.

Mr. CRAWFORD. I am seeking information on this matter now—I am not objecting—but I should like to ask how they can produce the rubber from these plants unless the War Production Board and the other powers-that-be work into the plant expansion program the necessary equipment to do the processing.

Mr. FULMER. I understand, that they have some of those plants already in this area where we are producing these shrubs. I think that as a part of the program, and certainly they will go into the processing of the shrubs, with those in authority, otherwise they would not be putting all this money into the program.

Mr. ANDERSON of California. Mr. Speaker, will the gentleman yield?



Mr. FULMER. I yield to the gentleman from California, who had been and is still deeply interested.

Mr. ANDERSON of California. In answer to the inquiry of the gentleman from Michigan, may I say that I visited the project while I was in California. There is a plant there now ready to harvest 500 acres of guayule this fall, from which they expect to process between 1,000,000 and 1,500,000 pounds of refined rubber. That will go into combination with synthetic products to make rubber for use in the war effort.

Mr. CRAWFORD. I think this point is just as important as can be in connection with this bill. My question is, Is the Rubber Administrator, Mr. Jeffers, taking into consideration the flow from this acreage which you now propose to expand so that the products of those acres will go into the synthetic rubber production? In other words, if no plants are being planned to process these plants, what are you going to do with them after they are harvested? What are you going to do with the liquid that comes from the plant.

Mr. FULMER. I agree with the gentleman. However, I am unable to give the gentleman definite information, but certainly, with this agency of the Government handling this problem, there must be some understanding whereby they will be able to process the many tons that they will be able to produce.

Mr. CRAWFORD. Frankly, I do not think there is. If the gentleman will read the Baruch report, I think he will find that there is not any understanding about it.

Mr. ANDERSON of New Mexico. Mr. Speaker, will the gentleman yield?

Mr. FULMER. I yield to the gentleman from New Mexico.

Mr. ANDERSON of New Mexico. I wonder if this bill still makes provision for the planting of guayule and these other plants outside the limits of the continental United States?

Mr. FULMER. The bill provides for employment of people from other countries, but I do not believe there is anything in this bill about going into any other country for producing this or any other shrubs.

Mr. ANDERSON of New Mexico. Is there any way it can be restricted so some of the States like west Texas, New Mexico, and Arizona, can get some of these plantings? They were all transferred to Mexico on the first planting.

Mr. FULMER. We were told by the representative from the Department that any plant that would grow in any other States and produce rubber would be planted, that they were going into this matter in an extensive way, and that they have other seeds to be planted that would produce better in some of the other States, perhaps, than this shrub.

Mr. ANDERSON of New Mexico. But they did not do it. Is there any way of protecting that situation?

Mr. FULMER. I imagine that will take time. The gentleman can take that up with the Department. I am sure they will be very glad to confer with the gentleman about it.

Mr. THOMASON. Mr. Speaker, will the gentleman yield?

Mr. FULMER. I yield to the gentleman from Texas.

Mr. THOMASON. I concur in what my colleague the gentleman from New Mexico has said about guayule and the rubber problem.

I am glad to note that there is now more interest being manifested in the growth, development, and processing of the guayule plant, because I think it a field of great possibilities. I admit that it offers little for the immediate future, but over the years, I think the program deserving of our support.

I might add that some years ago at the town of Marathon, Tex., there was a mill built for the processing of guayule produced in that section and just across the Rio Grande in old Mexico, but, of course, on account of the low prices of rubber the factory later went into bankruptcy. However, I think there are marvelous possibilities for this industry and that is what the Department of Agriculture and the experts say. All possible assistance and cooperation, in my judgment, ought to be given for the development of the guayule plant in those sections of our country, notably along the Mexican border in west Texas, New Mexico, and Arizona, in order to encourage further experimentation. There are many places in west Texas where this plant grows wild. More experimental stations and beds should be installed. The people in that section should be encouraged.

Mr. FULMER. I agree with the gentleman.

Mr. LUDLOW. Mr. Speaker, will the gentleman yield?

Mr. FULMER. I yield to the gentleman.

Mr. LUDLOW. How does it happen that such a miscalculation was made as to the available quantity of seed?

Mr. FULMER. Because of the misinformation about the amount of seed that would be available. From the plants that had been put out they found they could get a sufficient quantity of seed to plant a larger acreage. This total acreage will not be planted immediately, but this is to give them a leeway for next year and the next year, so they can utilize all of the seed possible so as to produce as quickly as possible as much rubber as possible.

Mr. MICHENER. Mr. Speaker, I withdraw my reservation of objection.

The SPEAKER. Is there objection to the request of the gentleman from South Carolina?

There was no objection.

The Clerk read the bill, as follows:

*Be it enacted, etc.,* That paragraph (2) of the first section of the act entitled "An act to provide for the planting of guayule and other rubber-bearing plants and to make available a source of crude rubber for emergency and defense uses," approved March 5, 1942, is amended by striking out the word "seventy-five" and inserting in lieu thereof the words "five hundred"; and by striking out the words "and land for nurseries" before the semicolon at the end of such paragraph and inserting in lieu thereof the following: "land for nurseries and administrative sites, and water rights."

Sec. 2. Paragraph (3) of the first section of such act is amended by inserting after the first semicolon the following: "to acquire water rights; to erect necessary buildings on leased land where suitable land cannot be purchased".

Sec. 3. Paragraph (4) of the first section of such act is amended by inserting after the first semicolon the following: "to purchase guayule shrub".

Sec. 4. Paragraph (8) of the first section of such act is amended by striking out the words "of seventy-five" and inserting in lieu thereof the words "not in excess of five hundred."

Sec. 5. Section 2 (a) of such act is amended by inserting after the words "citizens of" the word "other"; and by striking out the words "in the Western Hemisphere."

Sec. 6. Section 2 of such act is amended by adding at the end thereof the following new subsection:

"(e) In carrying out the provisions of this act the Secretary shall have all of the authority conferred upon him by the act entitled 'An act to facilitate and simplify the work of the Forest Service,' approved January 31, 1931."

With the following committee amendments:

Page 3, at the end of section 6, add the following new wording:

"(f) The Secretary may lease at reasonable rentals structures erected by the Government with essential facilities for such periods as such structures and facilities are not required for the purposes of this act; and any part of land or structures with essential facilities acquired by lease, deed, or other agreement pursuant to this act, which are not required or suitable for the purposes of the act during the period the United States is entitled to possession thereof may be leased or subleased at a reasonable rental; and any surplus water controlled by the United States on land owned or leased by the United States for the purposes of this act may be disposed of at reasonable rates."

Page 2, line 19, change the word "subsection" to "subsections."

Page 6, add a new section, to read as follows:

"SEC. 7. Section 2 (a) of such act is amended by inserting after the words "as amended," the following new wording: "(Sec. 321 to 324, inclusive, and sec. 325a of title 40 of the United States Code (1940 ed.) shall not apply to any nursery, planting, cultivating, or harvesting operations conducted pursuant to this act.)"

The committee amendments were agreed to.

The bill was ordered to be read a third time, was read the third time, and passed, and a motion to reconsider was laid on the table.

#### CORRECTION

Mr. MAY. Mr. Speaker, on page 8011 of Monday's Record, column 3, near the bottom, I am reported as having said that the State of Virginia produces 100,000,000 tons of coal annually, when I stated the State of West Virginia produced that amount of coal annually. I ask unanimous consent to correct the Record accordingly.

The SPEAKER. Is there objection to the request of the gentleman from Kentucky?

There was no objection.

#### EXTENSION OF REMARKS

Mr. MYERS of Pennsylvania, Mr. RAMSAY, and Mr. WHITE asked and

set. 12





This presents a formidable problem in the mobilization of manpower.

It is not that we do not have enough people in this country to do the job. The problem is to have the right numbers of the right people in the right places at the right time.

We are learning to ration materials, and we must now learn to ration manpower.

The major objectives of a sound manpower policy are:

First, to select and train men of the highest fighting efficiency needed for our armed forces in the achievement of victory over our enemies in combat.

Second, to man our war industries and farms with the workers needed to produce the arms and munitions and food required by ourselves and our fighting Allies to win this war.

In order to do this, we shall be compelled to stop workers from moving from one war job to another as a matter of personal preference; to stop employers from stealing labor from each other; to use older men and handicapped people and more women, and even grown boys and girls, wherever possible and reasonable, to replace men of military age and fitness; to train new personnel for essential war work; and to stop the wastage of labor in all nonessential activities.

There are many other things that we can do, and do immediately, to help meet the manpower problem.

The school authorities in all the States should work out plans to enable our high-school students to take some time from their school year and to use their summer vacations to help farmers raise and harvest their crops or to work in the war industries. This does not mean closing schools and stopping education. It does mean giving older students a better opportunity to contribute to the war effort. Such work will do no harm to the students.

People should do their work as near their homes as possible. We cannot afford to transport a single worker into an area where there is already a worker available to do the job.

In some communities employers dislike to employ women. In others they are reluctant to hire Negroes. In still others older men are not wanted. We can no longer afford to indulge such prejudices or practices.

Every citizen wants to know what essential war work he can do the best. He can get the answer by applying to the nearest United States Employment Service office. There are 4,500 of these offices throughout the Nation. They are the corner grocery stores of our manpower system. This network of employment offices is prepared to advise every citizen where his skills and labors are needed most and to refer him to an employer who can utilize them to best advantage in the war effort.

Perhaps the most difficult phase of the manpower problem is the scarcity of farm labor. I have seen many evidences of the fact, however, that the people are trying to meet it as well as possible.

In one community that I visited a perishable crop was harvested by turning out the whole of the high school for 3 or 4 days.

In another community of fruit growers the usual Japanese labor was not available; but when the fruit ripened the banker, the butcher, the lawyer, the garageman, the druggist, the local editor and, in fact, every able-bodied man and woman in the town left their occupations and went out, gathered the fruit, and sent it to market.

Every farmer in the land must realize fully that his production is part of war production and that he is regarded by the Nation as essential to victory. The American people expect him to keep his production up, and even to increase it. We will use every effort to help him to get labor; but, at the same time, he and the people of his community

must use ingenuity and cooperative effort to produce crops and livestock and dairy products.

It may be that all of our volunteer effort—however well intentioned and well administered—will not suffice to solve the problem. In that case we shall have to adopt new legislation. If this is necessary, I do not believe that the American people will shrink from it.

In a sense every American, because of the privilege of his citizenship, is a part of the selective service.

The Nation owes a debt of gratitude to the selective-service boards. The successful operation of the Selective Service System and the way it has been accepted by the great mass of our citizens give us confidence that, if necessary, the same principle could be used to solve any manpower problem.

And I want also to say a word of praise and thanks for the more than 10,000,000 people, all over the country, who have volunteered for the work of civilian defense—and who are working hard at it. They are displaying unselfish devotion in the patient performance of their often tiresome and always anonymous tasks. In doing this important neighborly work they are helping to fortify our national unity and our real understanding of the fact that we are all involved in this war.

Naturally on my trip I was most interested in watching the training of our fighting forces.

All of our combat units that go overseas must consist of young strong men who have had thorough training. A division that has an average age of 23 or 24 is a better fighting unit than one which has an average age of 33 or 34. The more of such troops we have in the field the sooner the war will be won, and the smaller will be the cost in casualties.

Therefore I believe that it will be necessary to lower the present minimum age limit for selective service from 20 years down to 18. We have learned how inevitable that is, and how important to the speeding up of victory.

I can very thoroughly understand the feeling of all parents whose sons have entered our armed forces. I have an appreciation of that feeling, and so has my wife.

I want every father and every mother who has a son in the service to know—again from what I have seen with my own eyes—that the men in the Army, Navy, and Marine Corps are receiving today the best possible training, equipment, and medical care. And we will never fail to provide for the spiritual needs of our officers and men under the chaplains of our armed services.

Good training will save many, many lives in battle. The highest rate of casualties is always suffered by units comprised of inadequately trained men.

We can be sure that the combat units of our Army and Navy are well manned, and well equipped, and well trained. Their effectiveness in action will depend upon the quality of their leadership and upon the wisdom of the strategic plans on which all military operations are based.

I can say one thing about our plans: They are not being decided by the typewriter strategists who expound their views in the press or on the radio.

One of the greatest of American soldiers, Robert E. Lee, once remarked on the tragic fact that in the war of his day all the best generals were apparently working on newspapers instead of in the Army. That seems to be true in all wars.

The trouble with the typewriter strategists is that, while they may be full of bright ideas, they are not in possession of much information about the facts or problems of military operations.

We, therefore, will continue to leave the plans for this war to the military leaders.

The military and naval plans of the United States are made by the joint staff of the Army and Navy, which is constantly in session in Washington. The chiefs of this staff are Admiral Leahy, General Marshall, Admiral King, and General Arnold. They meet and confer regularly with representatives of the British joint staff, and with representatives of Russia, China, the Netherlands, Poland, Norway, the British Dominions, and other nations working in the common cause.

Since this unity of operations was put into effect last January, there has been a very substantial agreement between these planners, all of whom are trained in the profession of arms—air, sea, and land—from their early years. As Commander in Chief I have at all times also been in substantial agreement.

As I have said before, many major decisions of strategy have been made. One of them, on which we have all agreed, relates to the necessity of diverting enemy forces from Russia and China to other theaters of war by new offensives against Germany and Japan. An announcement of how these offensives are to be launched, and when, and where, cannot be broadcast over the radio at this time.

We celebrate today the exploit of a bold and adventurous Italian—Christopher Columbus—who with the aid of Spain opened up a New World where freedom and tolerance and respect for human rights and dignity provided an asylum for the oppressed of the Old World.

Today the sons of the New World are fighting in lands far distant from their own America. They are fighting to save for all mankind, including ourselves, the principles which have flourished in this New World of freedom.

We are mindful of the countless millions of people whose future liberty and whose very lives depend upon permanent victory for the United Nations.

There are a few people in this country who, when the collapse of the Axis begins, will tell our people that we are safe once more; that we can tell the rest of the world to "stew in its own juice"; that never again will we help to pull "the other fellow's chestnuts from the fire"; that the future of civilization can jolly well take care of itself insofar as we are concerned.

But it is useless to win battles if the cause for which we fought these battles is lost. It is useless to win a war unless it stays won.

We therefore fight for the restoration and perpetuation of faith and hope throughout the world.

The objective of today is clear and realistic. It is to destroy completely the military power of Germany, Italy, and Japan to such good purpose that their threat against us and all the other United Nations cannot be revived a generation hence.

We are united in seeking the kind of victory that will guarantee that our grandchildren can grow and, under God, may live their lives, free from the constant threat of invasion, destruction, slavery, and violent death.

#### PLANTING OF GUAYULE AND OTHER RUBBER PLANTS

The VICE PRESIDENT laid before the Senate the amendments of the House of Representatives to the bill (S. 2775) to amend the act of March 5, 1942, relating to the planting of guayule and other rubber-bearing plants which were, on page 2, line 19, to strike out "subsection" and insert: "subsections"; and on page 3, after line 2, to insert:

(f) The Secretary may lease at reasonable rentals structures erected by the Govern-



ment with essential facilities for such periods as such structures and facilities are not required for the purposes of this act; and any part of land or structures with essential facilities acquired by lease, deed, or other agreement pursuant to this act, which are not required or suitable for the purposes of the act during the period the United States is entitled to possession thereof may be leased or subleased at a reasonable rental; and any surplus water controlled by the United States on land owned or leased by the United States for the purposes of this act may be disposed of at reasonable rates.

SEC. 7. Section 2 (a) of such act is amended by inserting after the words "as amended," the following new wording: "(Secs. 321 to 324, inclusive, and section 325a of title 40 of the U. S. Code (1940 ed.), shall not apply to any nursery, planting, cultivating or harvesting operations conducted pursuant to this act.)"

Mr. DOWNEY. Mr. President, I wish to move that the Senate concur in the amendments proposed by the House of Representatives. I may say, for the benefit of Senators, that the amendments proposed by the House are consistent with the recommendations of the Department of Agriculture, are merely perfecting amendments, and apply only to some very minor matters. The amendments are rather technical, but I have here a letter from the Department of Agriculture explaining exactly their effects. I ask that the letter be printed in the RECORD as a part of my remarks.

There being no objection, the letter was ordered to be printed in the RECORD, as follows:

UNITED STATES DEPARTMENT  
OF AGRICULTURE,  
FOREST SERVICE,  
Washington, October 9, 1942.

HON. SHERIDAN DOWNEY,  
United States Senate.

DEAR SENATOR DOWNEY: I should like to explain to you the purpose of the additional amendments by the House to S. 2775.

The first includes new language in the latter part of section 2 (a) referring to sections 321-324, inclusive, and section 325 (a) of Title 40 of United States Code. The principal purpose of this amendment is to enable us to make contracts with farmers under which they will do a considerable part of the ground preparation and subsequent cultivation and harvesting of guayule on lands leased from them. Negotiations with farmers have shown unwillingness on their part to enter into such arrangements because of the fear that they might be liable under the 8-hour law of 1912 as amended in 1940 for the payment of overtime where the length of day exceeds 8 hours. It appears that the long standing arrangement on California farms is for a straight 10-hour workday. This, I believe, is consistent with the exemption of agricultural workers in the Fair Labor Standards Act, but there seems to be enough of a question involved so as to make it desirable to have this amendment in the guayule bill. It does not in any way affect the rates of pay which have to be those prevalent in localities involved. The same rule, of course, would apply to persons employed by us directly on these activities.

The amendment embraced in section 2 (f) is to authorize us to enable some use to be made of facilities for which we do not at the time have use. We recently had a request for use of some of our structures by lettuce farmers which we could have permitted, but for which we found there was no legal authority.

We are, of course, very anxious to have this legislation brought to final enactment as

soon as possible, and I am sure you share that desire.

If there is any further information you need in relation to the above amendments or any other questions, please let me know.

There is one other point. The deficiency appropriation bill, which passed the House yesterday carrying an item of \$19,000,000 for guayule, has in it a provision for raising the acreage limitation by 25,000. This was inserted by agreement with the House Appropriations Committee so as to be safe in case, for any reason, the amendments to the act of March 5, 1942, were materially delayed.

The simplest thing to do now is to let that language stay as it is because our legal advisers here tell me that when the basic act is amended the new 500,000-acre figure will prevail, but even if this is not the case, we will not want to plant as much as 100,000 acres in the fiscal year 1943, to which this \$19,000,000 appropriation is limited. If something should arise later to change this situation, we would no doubt have no difficulty in getting the necessary change in appropriation language should that be required.

Very sincerely yours,

C. M. GRANGER,  
Acting Chief, Forest Service.

Mr. DOWNEY. Mr. President, unless the majority leader or the minority leader wishes a further explanation, I move that the Senate concur in the House amendments.

The motion was agreed to.

#### EXECUTIVE COMMUNICATIONS, ETC.

The VICE PRESIDENT laid before the Senate the following communications and letters, which were referred as indicated:

DRAFT OF PROPOSED PROVISION AFFECTING AN APPROPRIATION OF THE DEPARTMENT OF AGRICULTURE (S. DOC. NO. 289)

A communication from the President of the United States, transmitting a draft of a proposed provision to authorize the acquisition, by the Forest Service of the Department of Agriculture, of additional land for the forest-products laboratory at Madison, Wis. (with an accompanying paper); to the Committee on Appropriations and ordered to be printed.

SUPPLEMENTAL ESTIMATE—JUDICIAL ESTABLISHMENT (S. DOC. NO. 270)

A communication from the President of the United States, transmitting a supplemental estimate of appropriation for the fiscal year 1943, amounting to \$75,000, for the judicial establishment (with an accompanying paper); to the Committee on Appropriations and ordered to be printed.

DRAFT OF PROPOSED PROVISION PERTAINING TO THE APPROPRIATION FOR OFFICE OF PRICE ADMINISTRATION (S. DOC. NO. 271)

A communication from the President of the United States, transmitting a draft of a proposed provision pertaining to the appropriation for the Office of Price Administration, fiscal year 1943 (with an accompanying paper); to the Committee on Appropriations and ordered to be printed.

DRAFT OF PROPOSED PROVISION PERTAINING TO THE APPROPRIATIONS FOR DEFENSE AID (S. DOC. NO. 272)

A communication from the President of the United States, transmitting a draft of a proposed provision pertaining to the appropriations for defense aid, fiscal year 1943 (with

We have so advised the clerk of the Senate Appropriations Committee, who inquired about it.

C. M. G.

an accompanying paper); to the Committee on Appropriations and ordered to be printed.

SUPPLEMENTAL ESTIMATE, FEDERAL SECURITY AGENCY (S. DOC. NO. 273)

A communication from the President of the United States, transmitting a supplemental estimate of appropriation for the Federal Security Agency, fiscal year 1943, amounting to \$4,500 (with an accompanying paper); to the Committee on Appropriations and ordered to be printed.

COORDINATION OF FORWARDING AND SERVICING OF WATER-BORNE EXPORT AND IMPORT FOREIGN COMMERCE

A letter from the Administrator of the War Shipping Administration, transmitting, pursuant to law, a report of action taken to provide for the coordination of the forwarding and similar servicing of water-borne export and import foreign commerce of the United States for the period ended October 13, 1942 (with an accompanying report); to the Committee on Commerce.

SMALLER WAR PLANTS CORPORATION

A letter from the Chairman of the War Production Board, transmitting, pursuant to law, a report of his operations under the Smaller War Plants Corporation Act for the period ended October 11, 1942 (with accompanying papers); to the Committee on Banking and Currency.

#### DISPOSITION OF EXECUTIVE PAPERS

A letter from the Archivist of the United States, transmitting, pursuant to law, lists of papers and documents on the files of the Departments of the Treasury, War (5), and Navy (2); Federal Security Agency (5), Executive Office of the President (Office of Civilian Defense), The National Archives (2), The Panama Canal, and the Federal Security Agency, which are not needed in the conduct of business and have no permanent value or historical interest, and requesting action looking toward their disposition (with accompanying papers); to a Joint Select Committee on the Disposition of Papers in the Executive Departments.

The VICE PRESIDENT appointed Mr. BARKLEY and Mr. BREWSTER members of the committee on the part of the Senate.

#### PETITIONS

Petitions, etc., were laid before the Senate or presented and referred as indicated:

By the VICE PRESIDENT:

A letter in the nature of a petition from the chairman of Social Security of Puerto Rico, Santurce, P. R., praying for the enactment of House bill 7175, to extend Titles I, IV, and X of the Social Security Act to Puerto Rico; to the Committee on Territories and Insular Affairs.

A telegram in the nature of a petition from Bart Phillips, president, Local 2443, U. S. A., Congress of Industrial Organizations, and Thomas Graham, recording secretary, Local 2443, U. S. A., Congress of Industrial Organizations, Crum Lynne, Pa., praying for the enactment of legislation providing adequate taxes for the prosecution of the war; ordered to lie on the table.

By Mr. KILGORE:

Petitions, numerous signed, of sundry citizens of the State of West Virginia, praying for the enactment of Senate bill 860, to prohibit the sale of alcoholic liquor and to suppress vice in the vicinity of military camps and naval establishments; ordered to lie on the table.

CONSERVATION OF BUTTER FATS—RESOLUTION OF WISCONSIN CHEESE MAKERS' ASSOCIATION

Mr. WILEY. Mr. President, I ask unanimous consent to have printed in

gek. 2





[PUBLIC LAW 751—77TH CONGRESS]

[CHAPTER 617—2D SESSION]

[S. 2775]

AN ACT

To amend the Act of March 5, 1942, relating to the planting of guayule and other rubber-bearing plants.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled.* That paragraph (2) of the first section of the Act entitled "An Act to provide for the planting of guayule and other rubber-bearing plants and to make available a source of crude rubber for emergency and defense uses", approved March 5, 1942, is amended by striking out the word "seventy-five" and inserting in lieu thereof the words "five hundred"; and by striking out the words "and land for nurseries" before the semicolon at the end of such paragraph and inserting in lieu thereof the following: "land for nurseries and administrative sites, and water rights".

SEC. 2. Paragraph (3) of the first section of such Act is amended by inserting after the first semicolon the following: "to acquire water rights: to erect necessary buildings on leased land where suitable land cannot be purchased;".

SEC. 3. Paragraph (4) of the first section of such Act is amended by inserting after the first semicolon the following: "to purchase guayule shrub;".

SEC. 4. Paragraph (8) of the first section of such Act is amended by striking out the words "of seventy-five" and inserting in lieu thereof the words "not in excess of five hundred".

SEC. 5. Section 2 (a) of such Act is amended by inserting after the words "citizens of" the word "other"; and by striking out the words "in the Western Hemisphere".

SEC. 6. Section 2 of such Act is amended by adding at the end thereof the following new subsections:

"(e) In carrying out the provisions of this Act the Secretary shall have all of the authority conferred upon him by the Act entitled 'An Act to facilitate and simplify the work of the Forest Service', approved January 31, 1931.

"(f) The Secretary may lease at reasonable rentals structures erected by the Government with essential facilities for such periods as such structures and facilities are not required for the purposes of this Act; and any part of land or structures with essential facilities acquired by lease, deed, or other agreement pursuant to this Act, which are not required or suitable for the purposes of the Act during the period the United States is entitled to possession thereof may be leased or subleased at a reasonable rental; and any surplus water controlled by the United States on land owned or leased by the United States for the purposes of this Act may be disposed of at reasonable rates."

SEC. 7. Section 2 (a) of such Act is amended by inserting after the words "as amended." the following new wording: "(Sections 321 to 324, inclusive, and section 325a of title 40 of the United States Code (1940 edition), shall not apply to any nursery, planting, cultivating or harvesting operations conducted pursuant to this Act.)"

Approved, October 20, 1942.



Pub. No. 772

